Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

U. S. Department of Agriculture

EASTERN EDITION

ESTABLISHED 1877
The Illustrated Farm and Family Journal

24 NUMBERS
35 CENTS

FARM AND FIRESIDE

Vol. XXXII. No. 13 Springfield, Ohio, April 10, 1909 Terms { 1 Year, 24 Numbers, 35 Cents / 4 Years, 96 Numbers, $1.00

Practical Talks on Timely Questions

Always More Corn

THIS is a land of corn—the greatest single-animal feed in the world. Ordinary farming requires animal husbandry as a basis of continued profitable farming, for on that depends most largely the fertility of the land.

It is a disheartening and discouraging thing to farm over acres that slowly but perceptibly grow poorer in productive ability and more liable to suffer from drought, from floods, and to furnish conditions for the propagation of destructive insect life. Therefore, the farmer who would operate his own uplift lever (and after all, social uplift is largely a personal matter) must have cattle—animals that will change crude farm products into coin of the realm at a profit, and at the same time make manure for the financial economy of the farm.

To feed animals profitably we must have corn. Of course we want also hay of clover, of alfalfa, of timothy and of all the other grasses that clothe the fields, but always we must have corn.

We must have corn not only because of its superiority as a feed, but because it is so easily grown, because it grows so quickly and yields so abundantly of grain and stalk, because it is so wholesome, so palatable, so easily digested, so nutritious, so productive.

Land grows rich where corn is given a place in a sensible rotation, where the corn is fed liberally to worthy animals and the manure saved and carefully given back to the soil.

All business farmers know that the time has forever gone by when valuable grains and fodders can be fed to unproductive animals and a net profit figured out when all the returns are in. Obviously, then, we must first have good animals into the maws of which we can entrust our golden corn and new-mown hay and get back the profit that belongs to judicious investments.

Having the cow or horse or hog that deserves to be fed, by reason of being able to pay as it goes, it is animal "husbandry" to feed it well—I may say feed it a balanced ration and a full one. This animal will not only yield well in direct returns, but equally well in the valuable by-product of manure.

Did you ever notice the difference in the size and quality of the manure yield from a good animal fed under the eye of the master, wisely and well, and the yield from the unfortunate animal from a small measure in a stingy hand? There is a difference. There is a reason. There is a lesson.

"But," you say, "I am feeding all the corn I raise. How can I feed more?"

My dear sir, in farming a poor excuse is never better than no excuse. You are a feeder of the hungry, a filler of mouths, a raven to the prophets, and often a stranger to the profits, but you are the food ambassador of the universe, and from you excuses are never legitimate.

If you can't feed more corn because you are now feeding all you raise, then the logical thing for you to do is to raise more. No, don't buy more land, for goodness sake, nor perhaps put out many more acres on the land you already farm over, but increase the yield per acre.

Don't, I beg of you, get puffed up with importance because you are one of the contributors to the incomprehensible crop figures the Department at Washington has been exploiting, and imagine, because said department glorifies so vain-gloriously in the performance of the great American farmer—they certainly do exalt us; if some of us could only borrow a little on it!—that because we raised last year over two and one half billion bushels of corn we can't keep on till we make the yield twice as much.

I expect if we would hunt up acres as well as they have hunted up bushels for us, and divide what we would find into what they have found, the answer would not be over thirty. And thirty bushels of corn an acre isn't very much an acre nor very much corn. It won't fatten one steer. Twice thirty bushels is a decent yield for a fair farmer on medium land. A real good farmer on good land will make it three times thirty. And the man who does that is more of a public benefactor than the man who makes the laws, or the one who sings the songs, or the other one who marks the figures of the nation.

And with every stalk in its place in the field, and with every ear on its stalk, and the tillage of the soil well done, and the ration of the soil well balanced, and with knowledge swinging the hoe, and the sun and rain and dew not withholden, the bushels may be made one hundred and twenty-five; and the man who does that is the man who is singing the songs of the nation, and he has long ears, if he does not have an active hand in making the laws.

W. F. McSPARRAN.

Graded Seed Corn

The Large Sample is Ungraded, the Small Sample Shows the Culls and the Third Sample the Uniform Seed for Planting

Rotation of Crops

SOIL fertility is maintained by the rotation of crops. The soil contains deposits of humus, nitrogen, phosphorus, potash, etc. Each plant takes from the soil its required amount of these deposits, different plants taking different amounts. If a person keeps putting the same kind of crop on the soil from year to year it is evident that certain properties of the soil necessary for growth of that crop will become exhausted.

These used elements must be restored to the soil by some fertilizer or a change of crops must be made. The soil is a bank deposit, and when you have drawn out all the necessary elements for plant growth you can get no crop. The commercial fertilizer may be used to an advantage when the soil is exhausted, but we believe a better plan is to judiciously rotate crops and distribute sensibly all farm manures and such refuse as corn, rotted straw, etc.

There should be on every farm a defined system of rotation. Our experience has proven where this is adopted that there is the best of results.

W. D. NEALE.

Our Great Easter Offer, for Twenty Days Only, See Page 18

The A B C of Life Insurance

A Practical Discussion of the Forms and Principles of Insurance---By Louis D. Brandeis

VARIOUS forms of insurance are destined to play an increasingly important part in the lives of Americans. Provision against such contingencies as illness or invalidity, accident, non-employment, premature death and superannuation should be made from the individual earnings, in order that his years may be passed rationally, efficiently and with a minimum of the interruptions to usefulness and happiness that come only too often to most persons.

Money to meet the cost of these types of insurance should be saved by every self-respecting person of the community —unless we are prepared to have the state make the requisite saving collectively, through governmental or state taxation. The American way is to cultivate individual initiative in such matters. Insurance charges, therefore, are something for each person to meet by exercise of economy and thrift. They are part of the cost of living, of paying one's way in the world. Just as business men have it ground into them by precept and example that a certain amount or percentage must be set aside annually for depreciation, maintenance and extraordinary expenses if they wish to avoid insolvency, so the individual is on the highway to bankruptcy who does not provide against premature death and against the mishaps some one of which is almost as sure as death itself to come to each person.

All these kinds of insurance directly affecting the lives of the individuals are important. All deserve to be more extensively practised in the United States. Some of them, such as non-employment insurance, while little known here, have already considerable vogue abroad. All of them will doubtless be further developed in the near future through the activities of commercial companies, of voluntary associations and of the savings banks in states which, like Massachusetts, have an adequate system of savings institutions.

Life Insurance Alone Has Been Systematized

One of them alone up to this time has been brought by scientific study and commercial enterprise within hailing distance of the development it ought to have. That, of course, is insurance against premature death, or life insurance. So disastrous are the consequences when the bread winner of a family dies before his time and leaves his family unprovided for, that not unnaturally life insurance has been systematized, preached and pushed in this country ahead of all the other forms of insurance of life activities, until now a very large total of life insurance is in force.

This is not to say, of course, that practically every American carries all the life insurance he ought to have. Property is much better insured against fire than human life against premature dissolution. On the basis of ingenious calculations which have lately been made seeming to prove the life value of the average individual to be about $62,000 reckoned in terms of what he must pay to meet the cost of being born and of living to an average age, the fourteen billion dollars of old-line life insurance now in force in this country make but a sorry figure.

Still it is a fact that in the United States at least one legal-reserve life-insurance policy for every four people is now in force. The aggregate amount of our legal-reserve life insurance exceeds the valuation of American railroads.

Some Underlying Principles of the Life-Insurance Proposition

A few general principles may help readers of FARM AND FIRESIDE who have the life-insurance proposition to consider. They will at least suggest the care with which every American citizen should approach a subject that so closely concerns everybody.

FIRST: Become familiar, if you are not so already, with the general character of the life-insurance business. It is worth while to spend an hour or two learning the meaning of the terms that are ordinarily used. To be acquainted with all the different policies issued by the life-insurance companies of this country would be impossible. One company alone has more than three hundred forms of policies with which agents may meet the needs or muddle the minds of prospective insurants. If a few standard types were prescribed, as in the case of savings-bank life-insurance policies in Massachusetts, there would be less mystification in the minds of many people regarding the whole insurance business. Life insurance is really very simple. It is nothing but a method of saving practised by a group of people toward the specified end of paying to the beneficiary of each member a certain sum of money at his death. The benefits from the saving are equalized among the group. Those who do not reach the average age at which the members die leave more than they have put in (including interest), while those who live longer than the average leave less than they have deposited (including interest). While the average American cannot expect to become an insurance expert, he ought as a matter of general information to understand this fundamental principle of the business and some of the conclusions which are easily drawn from it.

SECOND: Consider only the old line or legal-reserve life insurance in making plans for the protection of those near and dear to you. Life insurance is generally divided into the three classes—old line, assessment, and fraternal. The first is the kind that is issued by the leading companies and by savings banks in Massachusetts. It represents a scientific system of equal payments each year, the amount being determined by the average expectancy of life among individuals starting at a given age, the estimated return on investments, and by the estimated expense of administering the insured's share of the business. The rates, in other words, are on what is called the level premium system. You start in at say twenty-one years to pay premiums, and you pay no larger premiums at sixty or seventy or eighty, even though the mortality among people at those ages is higher. For the sake of soundness under the plan of level premiums, it is necessary to save out a certain proportion of the premiums paid in while the insured are young, to meet the larger disbursements on account of death benefits that must be met later on. This amount reserved from the premiums goes by the name of the legal reserve. It gives perpetual assurance that the life-insurance company's obligations will be met—unless there should be actual dishonesty among the officials. The conditions of administering this kind of life insurance were so carefully worked out by Elizur Wright, of Massachusetts, that since his day no legal-reserve company has failed on account of a wrong system of charging. Extravagance and dishonesty have in a few instances brought disaster, but the scientific side of old-line life insurance is so well established that only a corrupt management can go wrong. Except for the possibility of misdoing among officers, legal-reserve life insurance is as firm as the great rock which one of the companies has appropriated for its emblem.

Assessment and Fraternal Insurance,

however, to put the case mildly, are still awaiting an Elizur Wright. They are able to offer lower rates than the old line companies can give, because their prices make no allowance for a legal reserve. Usually the rates are increased from time to time as a group of those insured at a certain age advances in years. The cry of the advocates of the assessment scheme is, "Keep your reserves in your own pocket." The danger of not having it there just at the moment when it is needed to continue the protection is liable to be minimized.

One state in the interest of its citizens has already undertaken to prevent the formation of any more assessment associations or corporations. Fraternal and benefit associations have schemes of varying degrees of financial stability. The sounder they are, the more closely, as a rule, their rates approach those of the old-line insurance companies. The less stable of them are kept going solely, as long as they continue to expand, to secure younger members, whose premiums keep the whole scheme from going bankrupt. The low-priced insurance offered in the name of fraternity has been proved in many instances to be exceedingly dear in the long run. It is distinctly the duty of the conscientious citizen when he purposes taking out life insurance to look into no proposition that is not based upon the legal-reserve requirements.

THIRD: Do not be afraid of legal-reserve life insurance because abuses have been disclosed. The insurance investigations of a few years ago not unnaturally had the effect of frightening many people regarding the future of the great companies which were then under the probe. Hundreds of thousands of Americans in the months immediately succeeding the Armstrong investigation renounced policies which they ought to have kept. Hundreds of thousands who ought to have arranged for life insurance of some kind in the first years following the upheaval allowed themselves to be dissuaded from doing so by the dread that they might be putting their money into something unsound. Yet such fear, as cannot be pointed out too explicitly, was groundless. None of the companies in question was in peril of bankruptcy. The breaches of trust of some of the officers and directors, while deserving all the condemnation they received, were not of a character to wreck the companies, although they undoubtedly added to the price of a commodity which, for the general welfare, ought to be sold at the lowest possible price.

Progress in life insurance has been continuous since the exposures, although undoubtedly somewhat retarded by them. The companies whose affairs were in the limelight for a year or more have gone right on, under managements asserted to be reformed, building up the total of their insurance. One of them has grown from twelve hundred million dollars of insurance in force in 1901 to more than twenty hundred millions in 1908; two others from respectively eleven hundred and thirty-eight and eleven hundred and sixteen millions at the earlier date to fourteen hundred and fifty-two and thirteen hundred and forty millions at the present date. Meantime some of the smaller companies, particularly those with home offices outside of New York, have nearly or quite doubled their totals in the same period of time. State supervision of life insurance, though by no means perfect, has been greatly improved as regards honesty of purpose and general efficiency. The stability of legal-reserve life insurance is greater to-day than ever before.

FOURTH: Choose the life-insurance company which you intend to patronize with the same care that you would give to deciding whether to engage with an individual in a contract involving relations running over many years. Advice as to the standing of the different companies cannot of course be given in an article like this. Without suggesting any discrimination against the larger companies if they offer something that the smaller ones do not afford, words written by the author of this article at the time of the disclosures of 1905 may be still urged to be true.

"Whatever may be true in other fields of business, it has been proved beyond doubt that in life insurance mere increase in size does not tend to lessen cost of management or to increase returns from investment; that the largest companies are unable to serve the public as well as smaller institutions. It has also been shown conclusively that many of the abuses of the life-insurance business, now disclosed, result directly from the size of the companies. Man has not kept pace in growth with his works. Even the executives of the 'Big Three' have admitted their inability adequately to supervise their companies. Witnesses have sought to excuse illegitimate syndicate transactions and speculative underwritings by the necessities of investing the huge sums pouring into the large companies. On the other hand, the investigation has also made clear that these large insurance companies, through the power which inheres in the control of quick capital, expose the community to dangers which no other kind of corporation presents to so great an extent."

The size of a life-insurance company, it has long been evident, does not prove that it has met with the highest success.

Marks of Efficiency in Life-Insurance Companies

One of the true tests of the efficiency of the management is the ability to keep the expenses down, so that only a small percentage of the amount received from premiums has to be deducted to meet them. A second consideration should be the percentage of return yielded by the company's invested funds. A third is the number of policies that are voluntarily surrendered or perforce given up because the insured have stopped paying the premiums. From the annual reports of the insurance commissioners of the states in which the companies do business, these things are easily determined by any one who is accustomed to analyze even the simplest business accounts. If you find that between twenty and thirty per cent of the premiums, or even more, paid to a company with which you may do business, go to meet the running expenses, it is well to see if some other company whose policies are as satisfactory does not show a lower percentage of cost of operation to receipts. Savings banks of Massachusetts, having no expensive force of solicitors, collectors and high-salaried officials to maintain, spend less than one and one half per cent of the year's deposits for expenses. The percentage of expense in conducting their insurance department will, of course, be more. It is hopeless to expect a commercial corporation which, to meet competitive conditions, must support a paid agency force and must pay the large salaries that prevail in great cities, to keep down to any such percentage as that the people's savings banks will achieve; but it remains true, that in the long run, other things being equal, the more economically an insurance company is managed, the better satisfied the average American citizen will be with his insurance policy.

Returns From Investments Are Reliable Indicators

Favorable results from the investment of funds should be regarded as a mark of economical and progressive management of a life-insurance company. The big life-insurance companies have often been alleged to have an advantage over the smaller ones as regards investment of resources, since their directors through their participation in great syndicates, and pools have frequently been able to win extraordinary profits both for their companies and for themselves. On the other hand, these speculative enterprises of high finance in several very notable instances have not turned out as expected. So that the thing about evens itself up. A surprising circumstance in the comparison instituted some time ago between the three largest life-insurance companies and the Massachusetts savings institutions was to discover that the latter, represented by investment committees who give their services gratuitously, have been earning a higher rate of interest than any of these corporations which, before the upheaval, were paying almost fabulously high salaries for supervisory service.

A high percentage of surrenders and lapses indicates infallibly that something is wrong with a company's way of doing business. Ordinarily it means that the agents of the company are overzealous in taking business that ought never to get on the books. Nearly everybody has had experience with the solicitor who is too persuasive, who puts his interest in getting a commission above your interest in purchasing something which you both need and can pay for. Lapsed policies, contrary to a prevailing opinion, do not represent a source of profit to the insurance company. Those, on the contrary, that are given up within a short time after they are written—and these lapses are in a great majority—cause an actual cash loss. It costs money to open an account with the insurant.

Lack of Surrenders Denotes Good Management

It is a mark of the well-conducted insurance company that a high percentage of the people who go into it stay with it. The essential viciousness of the system of industrial-life insurance—that is, of policies for small amounts on the lives of working people, with weekly or monthly premiums—has been proved by nothing so conclusively as that only a small number in the total of those insured persist to bear the expense. In a single year eighty-seven per cent of the industrial policies in three leading companies which terminated within the year were forfeited, and only thirteen per cent resulted in any payment to the insured. Examination of the reports of the departments of ordinary life insurance will show a much more creditable record as regards lapses.

FIFTH: Don't undertake industrial-life insurance (unless savings-bank insurance which is issued at actual cost, and which therefore is free from objection) if you can possibly arrange for ordinary life insurance. The industrial plan with its little premiums of from five to fifty cents a week offers, naturally, a great temptation to many people who would find it difficult to gather together annually or semiannually or quarterly the amount necessary to meet the premiums of a thousand-dollar policy. But industrial insurance, for all its little premiums, is very high-priced insurance. It is worse than buying coal by the hodful or butter by the ounce. About forty per cent of each premium paid in goes to cover the expense of administration. No matter how honestly the industrial-insurance system is conducted, so long as the rates are based on special mortality tables

[CONCLUDED ON PAGE 14]

Around the Farm

Items of Interest and Value to the Progressive Farmer

The Farm-Power Problem

MANY farmers who have cream separators or other hand-operated machinery, as well as some with heavier equipment, will, during the next few weeks, be casting about for a satisfactory source of power to run the same. The fall and winter expenditure of time and muscle is comparatively trifling in most cases. With the more pressing duties of the busy season it becomes a matter of considerable moment, hence a review of the principal methods of power production, with reference to the advantages and disadvantages of each, may be of special interest at this time.

Until quite recently the steam engine was considered to be the best available source of power, particularly on large farms. Once set going, the result is very satisfactory, reliability and steadiness of motion being two commendable features. On the other hand, it is handicapped by the fact that it is not an ever-ready power. The time required for getting up steam is just what the prospective purchaser wishes to avoid. Moreover, it requires a fairly skilled operator. There is an element of danger from fire in summer, while in winter, if water is carelessly left in it, damage from freezing is sure to follow. Besides, the first cost of a steam engine is so large as to prohibit their coming into general use.

The Gasoline Engine in Favor

In point of economy, convenience and safety the gasoline engine is rapidly coming into favor. When making a purchase it is a good plan to take stock of the various kinds of work that is likely to be required of it. An engine of one or two horse power that would operate any light machinery satisfactorily would be quite useless for husking corn or driving the ensilage cutter. One meeting all the requirements of heavy work would be equally serviceable in the former class. Such an engine of twelve-horse power and mounted on trucks will cost about eight hundred dollars. This is a pretty large sum, but if a complete service is desired it will not pay to "split hairs" on the first cost of installation. From eight to fifteen cents an hour will generally cover the expense for fuel. When the engine is stopped this expense also stops, there being no consumption of fuel except while in motion. It requires no regular attention and is always ready at once, when wanted. It must therefore be admitted that in these respects gasoline excels steam for farm purposes.

However, it has a few drawbacks that should be mentioned. For running cream separators there is not a sufficient steadiness and constancy of power, the gears being subjected to a considerable jerk at every explosion of the cylinder. This may be largely remedied by using a fairly heavy fly wheel. Thus equipped it will not feel the weight of driving the separator, and hence a drop in speed will be prevented that will allow the latter to run free, to receive later a "kick," when a fresh impulse comes from the engine.

An Important Improvement

Some manufacturers have adopted a new type of governor which gives very smooth results. Instead of cutting off the supply altogether, it reduces it when necessary, so that there are no "skips," but a steady, regular succession of graduated explosions, which produce admirably even running and have, I believe, given satisfaction wherever tried.

As regards danger, the gasoline engine comes very near to being an absolutely safe power. As it will not blow up nor emit sparks that will cause fire, it can be kept under the same roof as the machinery it is proposed to drive. By placing the supply tank outside the building, and conveying the gasoline to the engine by means of a pipe; also keeping all lights away from the gasoline when it is exposed to the air, as in filling the tank, any danger from this source may be practically eliminated.

Many people are under the impression that a gasoline engine will, as it were, only run "when the spirit moves it," and that it may stop suddenly at any time, with no apparent reason. As a matter of fact, any piece of farm machinery is liable to get out of order. If there is trouble with the engine, it is quite probable that the source may be traced to either a leaky cylinder, a defective fuel supply or a faulty ignition, such as weak or exhausted batteries, loose wires, etc. At any rate, don't tinker. If you can't locate the trouble, call in an expert who can. He will put you in possession of a few facts that will enable you to avoid many vexatious delays and double your appreciation of gasoline engines.

The Windmill Furnishes Cheap Power

The cheapest of all powers is the windmill. For many farm purposes, such as pumping water, pulping roots, grinding grain or sawing wood it gives excellent satisfaction. Its chief disadvantage is its uncertainty. It cannot be relied upon to furnish power at any time. Besides this, it is unsuitable for running cream separators or other machinery requiring steady motion. The irregular power and speed of the wind and the nature of the controlling device with which the mill is equipped are points contributing to the latter result. When the speed of the wheel becomes too high, this controlling device draws it around more or less edgewise to the wind, and as it then receives less power, the speed falls. Being cumbersome and heavy, the wheel returns to its former position too slowly, which allows the speed to run down too low.

In buying a windmill, choose one that automatically "goes out of the wind." As it is often the unexpected that happens, it is the part of wisdom to install a safe type. Thus prepared, nothing worse than a sudden stop could happen; otherwise, the result might be disastrous to the mill itself or any machine to which it might be attached.

Last, but nevertheless important, comes horse power. There are two kinds—"tread" or inclined powers, operated by the weight of horses or other animals used there, and "sweep" or horizontal powers, utilizing the tractive power of horses. There are still a few of the latter in use, but they are clumsy and unsteady, besides taking up so much room that they are scarcely worth consideration by a person who has any thought of a modern power.

The tread power is eminently satisfactory as a motive power for medium and light weight machinery. Its advantages are a uniform, steady speed, such as is required for separating; compactness, that allows of it being easily placed in a building, and the fact that it needs no attention while in operation. The speed is controlled by a "governor" placed on the hub of the drive wheel. The slightest increase of speed causes revolving weights to grip and turn a drum or wheel, which winds up a cord, thus drawing a brake against the face of the wheel. As the whole apparatus is light in weight, the governor does not need an excessive speed to bring it into play. Instead of a jerky, irregular checking of the speed there is a constant light pressure of the brake on the smooth face of the wheel, resulting in a perfectly even speed. Its weak point on a farm is that animals are required to drive it. This is sometimes inconvenient in the summer time, when the horses are needed elsewhere. Some claim that this power is hard on horses. There are two causes for this. First, they become excited on finding the platform giving way under their feet while they make no forward progress in walking. Second, if the platform is set too steep, the animals are compelled to walk up a steep incline, often making two horses do the work that should be performed by three. These powers are made in one, two and three horse sizes and will be found a profitable investment on any farm where a scarcity of labor exists.

Electricity and water are the sources of two splendid powers suitable for the farm. However, as few farmers are so fortunately situated as to take advantage of them, they do not properly come within this article. J. HUGH MCKENNEY.

Clover in Rye

Clover Sown in the Spring With Fall Rye. One Swath of Rye is Cut Away, Showing the Growth of Clover in the Stubble

Timely Bee Talk

THE warm, quiet days of April is the time to begin looking through the hives to see how the bees have wintered, and to clip your queen while there are yet but a few bees to interfere with finding her. You can also make arrangements to hatch a queen if you find one missing.

Right here I wish to urge the necessity of taking the brood to hatch the queen from the colony which last season gave you the largest amount of honey, no matter if the colony be not pure Italians, for it is honey you want, and size, color and disposition are secondary considerations.

There is a deal of nonsense written about clipping queens. All fear of injuring her ladyship may be avoided if one will simply seize one wing, when she will turn over the end of your finger, clasp it with all six of her little feet and lie still until you have clipped the free wing. A queen never stings. This avoids the danger of amputating a leg or of injuring her by pressing too hard on her body.

With the weak colonies strengthened, supplied with food if they are short, and queens replaced if they are missing, there is nothing more to do until May, other than getting hives, supers and frames in first-class shape. The less that bees are bothered at this critical time in their economy, the better. A. F. BONNEY.

Handling Farm Machinery

IT APPEARS that very few men have a surplus of mechanical sense. A large per cent of men cannot operate a complicated machine without having trouble, due not to faults in machinery, but to his own ignorance in most cases.

In the first place, many men get their machinery assembled wrong. I mean by this that they get certain parts overstrained by screwing up the nuts too tightly in some places and not tight enough in others, or sometimes weak parts are injured through hammering them too hard. Among the worst things is that many do not use oil often enough, while I have seen this oiling overdone.

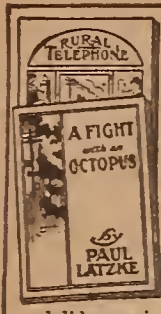
With harvesters, dirt and straw are often allowed to accumulate in vital parts, and consequently inferior work is done. When harvesting wheat and other small grains, farmers, in their hurry, often subject their machinery to tests for which they were never intended. I well remember being at the field where a man was harvesting some wheat last year, and he was driving right through a mire, and expected it to cut a full swath of heavy wheat in which there was also a heavy growth of young alders. Of course, this machine would choke up quite often; however, I will say that it surprised me in doing the work. To cut such dense growth and elevate it while the bull wheel was almost sliding surely was a trial. Machines should be used with more care and intelligence than is usually shown. Such abuse as this was enough to shorten the life of any machine and depreciate its work.

When a machine is purchased, familiarize yourself with its mechanism, understanding just what function each lever or device performs. I have seen men, while driving a binder, always changing the levers, while still others never touch them. It seems to me that it should be plain to any one that all these devices are made for specific purposes. These purposes should be known and the levers used when occasion requires. Can we expect a machine to do its part well unless we first do our part well?

There are very few machines on the market to-day that will fail to make good if they are put up right and used right. It is not necessary, however, that a man should be an expert machinist in order to get satisfactory work out of any farm machine, but it is essential that he should use his brains and give the machine an opportunity to make good.

A neighbor of mine last year bought a new cultivator, brought it home and put it to work as he thought all right, and labored laboriously for a week, and one day I was passing and he asked me to stop and see if I could do anything for the cultivator. He said he had had about all of it he wanted, and if there could be no remedy he was ready to lay it aside, even after paying his good hard-earned cash for it. When I looked at the plow it appeared to me that it was not properly adjusted, so I just simply adjusted the plows to suit the soil, and it worked off nicely. In fact, it was one of the best makes of cultivator. The trouble was simple, of course, it seems that any man ought to have noticed it, but there are many just that way.

Let me say to you, if you buy any new implements this spring, before going to work with them, study them thoroughly, and if you are not sure, call some one who does know how to arrange them, and you will have good results from their use. R. B. RUSHING.



Rural Telephone

This 92-page illustrated book—not a mere catalog—tells how to organize, build and operate a telephone exchange or rural lines, copy of by-laws and constitution, renter's contract, how to incorporate, code of signals. A good education in electricity.

A Fight WITH AN Octopus

This 116-page illustrated book is the most thrilling and interesting TRUE story of how a few sturdy farmers put to rout a bunch of Eastern money kings and did more in ten years than the millionaires did in thirty. It will make your blood tingle to read it. Both of the above copyrighted books will be sent on receipt of five 2c stamps for mailing.

SWEDISH-AMERICAN TELEPHONE CO.
1751 Ravenswood Ave., Chicago, Ill.

HENCH'S 20th Century
Steel Ball Coupling Pivot Axle Cultivator with Double Row Corn Planter and Fertilizer Attachment complete in One Machine.

Awarded **GOLD MEDAL** at World's Fair, St. Louis. A wonderful improvement in cultivators, combining every possible movement of gangs and wheels required. Easily changed to different styles. Thousands in use. M'fr's of all kind of Ag'r'l Implements. Agents wanted; write for circular.
The Hench & Dromgold Co., Mfrs., York, Pa.

KNOW Your Weights—Don't Guess

The successful farmer of to-day KNOWS the exact weight of the supplies he *purchases*; he KNOWS to a certainty how much the products weigh that he *sells*. Accurate weights are a big, vital feature in profitable farming. Public scales are expensive, unreliable and often situated at a distance, but every farmer can be sure of perfect accuracy if he owns an

OSGOOD PITLESS SCALE

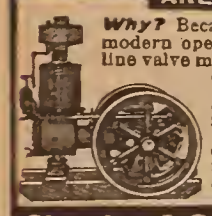
These Scales are *absolutely reliable*—warranted so: every farmer can now afford one. Prices range from $45 to $80. Catalogue illustrates many styles of scales and contains valuable scale information. Write for it.

OSGOOD SCALE CO.
Box 165, Binghamton, N. Y.

BE A TRAVELING SALESMAN

We have trained hundreds of men who had no former experience as salesmen and who formerly earned from $25 to $75 per month to be Traveling Salesmen and assisted them to secure positions on the road when they have since earned from $100 to $500 per month and expenses. We will do the same for you. Our Course in **Practical Salesmanship** is endorsed by Salesmanagers of leading firms everywhere. We maintain the largest **Free Employment Bureau** in the world with offices in five cities, and receive hundreds of calls for Salesmen. Our graduates earn **big money** for they **get results.** If you want to increase your earnings and enter the most pleasant, best paid profession on earth our **Free Book** "*A Knight of the Grip*" will show you how. Write nearest office for it today.
Dept. 168 NATIONAL SALESMAN'S TRAINING ASSOCIATION, New York, Chicago, Kansas City, Minneapolis, San Francisco.

Stickney Gasoline Engines ARE THE BEST



Why? Because of the outside igniter, modern open cooling system, straight-line valve motion and ball-bearing governor. Thousands in successful operation because of our years of experience in building the best. Seven sizes: 1½ to 16 H.P.

Send for our Free Catalog and our Catechism telling fifty-seven reasons why ***Stickney Engines are the Best.***

Agents everywhere sell them.

Charles A. Stickney Company
MAIN OFFICE & FACTORY ST. PAUL, MINN.

FIX YOUR ROOF

5c Per Square.—We will guarantee to put any old leaky, worn-out, rusty, tin, iron, steel, paper, felt, gravel or shingle roof in perfect condition, and keep it in perfect condition for 60 per square per year.

Roof-Fix The Perfect Roof Preserver, makes old, worn-out roofs new. Satisfaction guaranteed or money refunded. Our free roofing book tells all about it. Write for it today.

The Anderson Manufacturing Co., Dept. 19 Elyria, Ohio

WE BUY OLD BAGS

What do you do with your old bags? Don't throw them away, we will buy Feed bags of all kinds—Gluten, Beet Pulp, Bran, Oats, Corn, Cotton-Seed Meal Bags, etc., and pay you highest prices. Write us today for prices and particulars. We pay the freight.

ST. LOUIS BAG & BURLAP CO.
330 N. Main St., St. Louis, Mo.

$48 for this Air Pressure Water Supply System

complete as shown in cut. Having a daily capacity of 145 gallons. Guaranteed as represented or money back.

The Baltimore Co.
Tanner Block, Baltimore, Md.

The Louden Way

of saving labor—absolutely indispensable on your country place. Write for catalog of Louden Litter Carriers, Hay Carriers, Sanitary Steel Stalls and Stanchions, Flexible Barn Door Hangers and other labor-saving devices. LOUDEN MACHINERY COMPANY, 633 Broadway, Fairfield, Iowa.

Investment of Farm Profits

Part IV. Investment of Surplus Income in Sound Securities—By Robert W. Martin

THERE are two very old and very true adages that often seem untrue and even cruelly ironical to thousands of the most earnest, capable and intelligent people in this land. These are, *first*, the best way to make money is to save it, and, *second* (covering the same ground in part), it is easier to make money than to keep it. Yet "counsel of perfection," as they so often seem, when demands of living expenses in these days, and cost of bringing up and educating a family, leave so little margin for the ordinarily industrious person, they are very true. The tale of those who have tried to make money by speculating or some venture is an appalling one, and only less long and pitiful is the record of those who have gained fortune, or the beginnings of fortune, only to lose it, usually when it should be furnishing them ease and a quiet life.

Now, when money is so difficult to save, no care can be too great in investing it for a return in a steady income. And I say that the first and most important essential to be ever kept in mind in investing in securities is to know those with whom you are dealing. This is essential in all business transactions, but preeminently so when it comes to entrusting your savings in investment. First of all, I should say that you will be wise in dealing with those bankers who are members of the New York, Boston or Philadelphia stock exchanges. Many of the best bankers are not members of these exchanges, but unless you are in a position to know the standing of the house from whom you are buying securities, you had better have the safeguards which membership in such exchanges gives.

Questions to Ask

When you are asked to buy a bond, ask where it could be sold. When you are told of the profits which the company is going to earn, ask what it has earned in the past. When you are told how big the corporation is, ask how much of its property is pledged for the bonds you are asked to buy. Don't buy securities which are issued to enable some one to buy up a property or to build an extension or a new railroad or a new enterprise of any kind. Capital for such purposes should not be furnished by the average private investor.

Never, under any consideration, buy as an investment, stock in a mine or in a factory or in an enterprise depending on the sale of a single output. Be very careful about advertisements of securities where you are not familiar with the company and the name of the broker. Before taking up any direct communication, speak to your local banker, or, failing him, write to a bank in the nearest large city, or in Chicago or in New York. Do not hesitate to do so because you do not know them. If they are properly serving their purpose they will give careful attention to you. Besides, the safety of your money is worth all the effort that you can make to be sure that you are well informed and have selected a responsible firm through which to deal, and have a security approved by some disinterested person—a person well enough informed to give his judgment value.

From Whom Do Undesirable Schemes Come?

We all know the value of a good name, and we should seek it not only for ourselves, but also in others, particularly when we are investing our savings. Now, the peculiarity of bad schemes is that they come before you as a rule from people you never heard of before or whose names you are only familiar with by advertising or through their activities in promotion in one form or another. They are practically never members of any body like a stock exchange, which has supervisory power over its members, and they seldom have any long business record. The possession of all these attributes is no warrant that all securities recommended by such houses are unquestionable, but the first and foremost safeguard for any investor is that he shall deal only with those whose reputation as business men is above reproach.

If investors would bear the above injunctions in mind, the immense proportion of illegitimate business in securities would at once fall to the ground. But it is useless to hope that this will happen. Moral injunctions and business caution are easily—so easily—overcome by the spirit of cupidity. The chance to make quick money, the opportunity to get a higher rate of interest than afforded by conservative investment, the temptation that you can beat the other fellow, are all too strong to be resisted, and so one of the most extensive and most profitable businesses in the United States and in Europe, even in India and the confines of Asia and Africa, the manufacture of worthless securities, will continue.

Avarice is at the Root of the Evil

What are the schemes? Too numerous and various to be even catalogued here. But they all appeal to the eternal spirit of avarice, to speak plainly. Not the legitimate desire to invest one's savings to the best advantage, or to get a little better rate of interest than the banks can offer (because they have to make a profit by reinvesting, in one form or another), but at bottom, however artfully it may be colored, to the desire to get more than seems a legitimate return, or to get something which some one else would desire to get, or will get if you do not hurry.

Artfully colored these appeals certainly are. Notice that they are never coupled with well-known properties or any that can be examined. They appeal, as an evidence of their own worthiness, to some other success, and picture radiant views of like success for their own untried schemes. Mines and patented devices are the magnets which are used, with most glaring impudence and success. In these two lines of activity, necessarily, the greatest financial successes are reaped. But even the most successful of them are hardly to be recommended to the average investor.

Schemes Should be Easily Detected

This scheme of foisting on the investor some peculiar property ought to be easily detected. But it seems to die hard. The great success of the Bell Telephone is brought up in selling securities in any miserable enterprise having any alleged connection with telephoning or the telegraph. The wealth of ex-Senator Clark of Montana made out of mining has been used thousands of times in selling worthless stocks of mining companies, and so this record might be continued almost without limit. A proposition which appeals to the wealth made in the development of seemingly analogous enterprises, well known to the world, is at once open to suspicion. Any successful enterprise finds hosts of weak imitators, which are most often started only for the purpose of capitalizing, in the form of securities, for resale to those unfamiliar with the difference between the real and the imitation.

Another appeal which is very commonly made is that if the opportunity to buy, so considerately offered, is not availed of, the price will be advanced, etc., etc. This is so patent and hollow a device that it would seem that it would have little success. It ought to be sufficient, where employed, to warn any possible investor. But it isn't, and such notices as the following succeed in drawing hard-earned savings and profits out of the pockets of those who are relying on them for their future.

NOTICE OF ADVANCE

The TRUSTEE CERTIFICATES of the Lucky Girl Gold Mines Limited, drawing six per cent interest on the par value of the stock, and participating in all dividends, will be advanced to four dollars per share on and after February 1, 1909, without further notice.

A. FRANK BLUEJAY, President.
100 Broadway, New York.

It is a peculiar circumstance that the most deplorable schemes are promulgated with the most persistency and energy. Everything which can deceive is resorted to. The aim is, of course, to get before the investor what looks like indorsement from impartial authority. Lately, reprints of newspapers, or what look like reprints, have been issued, articles describing in glowing terms the future of inventions, mines, or whatever enterprise is being promoted, and sent to prospective customers. Thus, we have "35 Congress Street News" "briefly reviewing" whatever the promoters have in hand for the time being, never to be heard of after.

Is There Too Much Money Seeking Investment?

So much money is seeking investment in this country at all times that those who make a business of going about, finding the men unfamiliar with the proper investment of funds, are able (the pieces of paper they sell costing them little or nothing, as it represents little or no property) to make huge profits. They seldom keep these profits, for they are themselves, in turn, frequently fleeced, having a penchant for gambling and speculations of all kinds. But they support immense and imposing offices. One of the worst of these groups has several floors in one of the up-town office buildings in New York City which impress the casual visitor. That company is a wide advertiser, under an innocuous name, which often deceives even the most conscientious newspaper proprietors, especially as they profess often to deal in legitimate securities, until they have established some sort of standing in a community. This corporation boasts of its tens of thousands of clients, and it has, as a matter of fact, taken in hundreds of thousands of dollars selling securities for ten dollars or any other price it could secure. The securities once sold, nothing more is heard of the enterprise, but the corporation goes on, selling other securities, now in a telephone apparatus, again in a textile mill, perhaps, with much insistence, once in a while proclaiming its dealings in bank stocks, etc.

Beware of the "Special Letter"

Again, a favorite method with these hucksters in securities is the confidential appeal. One gets in his mail a letter from some unknown correspondent, offering him a "special price" before a "public announcement" in some unheard-of security. It looks as if one has but to pay one hundred dollars now for something which in a few weeks everybody will be buying for two hundred dollars. That is the impression which was intended to be given. It is a very bald plan, but it prevails to an astounding degree. The appeal is always for haste. Get rid of your money because the other man wants it. If you took time to consider the foolishness of what you are asked to do, you would not do it. Then hurry, so that you will not think over the proposal. If you should ask advice you might learn the truth, which is not what it is intended you shall learn. So this appeal for your money is always urgent. Thus, one of the most notorious of these coteries, in a recent campaign, sent out thousands upon thousands of multigraphed circulars, as a "special letter to our clients and friends of the house," who are asked to send one hundred dollars in five-dollar payments for twenty months for a badly printed piece of paper representing no more investment than the printer's bill.

"This is the best offer that could possibly be devised for the benefit of our clients, and we take pleasure in submitting it to you, asking that you take instant action in the matter."

The appeal goes on:

"In accepting this offer, as we know hundreds of our clients will, please mail check, money order, or registered letter, enclosing first payment on the above offer. This offer is limited, both as to time and the amount of stock involved, and we respectfully request all of our clients who contemplate purchasing two thousand shares of Eureka, as above, to waste no time in writing us."

Are Intelligent People Easily Fooled?

It would seem as if these things would be immediately thrown away and that there could not possibly be any use in sending them out. But if two hundred thousand are sent out, and only one in one thousand are gullible, here is twenty thousand dollars, a tidy sum. In all events, the returns are sufficiently large to make the "business"—if such a term may be used—very profitable. Why it should be so in so intelligent a country as the United States almost passes comprehension.

Go to Your Local Banker

I can only close as I began, that the local bankers, the one in the market town, or nearer, is the natural channel for first information about security investments. But banking in this country has heretofore, outside of the large cities, not involved special training in security investments. It is too much to expect the local banker to be primed, therefore, with the best advice or the latest news of the security market. He should be asked to communicate with his Chicago or New York bank correspondent, or the private bankers with whom they deal, and who, in this country, are usually best equipped with information regarding security investments.

In investing your money, deal with those you know or who are known to those whose business it is to act as trustees for you in investing your funds.

Review of the Farm Press

What Others Are Saying About Important Farm Matters

Is the Oat Crop Unprofitable?

THERE is considerable effort being made at the present time to find a satisfactory substitute for the oat crop. A few weeks ago Mr. Gail T. Abbot of the Wooster Station, while lecturing before the local farmers' institute, made the statement that the average oat crop in Ohio last year was thirty-four bushels an acre. In trying to come a little nearer to learning just how profitable or unprofitable that average crop in Ohio last year would be—my own not being far from the same—I turned to my field records of labor and expense and gathered the following information. In these records the crop is charged thirty cents an hour for man and team and fifteen cents an hour for man alone.

Expenses per acre:

Plowing	$2.00
Harrowing and seeding	.75
Three bushels of seed @ 60 cents	1.80
Reaping and twine	1.20
Shocking	30
Hauling to stack	.50
Thrashing 34 bushels @ 3 cents	1.02
Help in thrashing	.25
Rent on land	6.00
	$13.82

Receipts per acre:

34 bushels @ 50 cents	$17.00
Straw, one half ton @ $4	2.00
	$19.00

This leaves a net profit per acre of $5.18.

In the above the land was well plowed, seeded broadcast and harrowed twice.

Mr. Abbot recognized the fact that no crop went into the ground with so poor a preparation as oats, but believed more care would be profitable. At the Wooster Station plowing gave better results than disking or cultivating. Their best yielding variety had been the "Siberian," although the speaker considered the "Improved American" the best all-round variety. Shallow covering—one to one and one half inches—was recommended, and when drilled evenly nine pecks of seed gave better average yield than either more or less. In experiments covering fifteen years eighty pounds of acid phosphate to the acre, costing sixty-five cents, increased the value of the crop $2.48.

A man in the audience, one of our most exact local farmers, said that in his use of commercial fertilizers on farm crops he had found that an application of one hundred pounds of phosphate per acre to the oat crop had been the most profitable.—E. C. Fawcett in The National Stockman and Farmer.

Selecting Seed Ears

THE following is the score card as adopted by the Ohio Corn Improvement Association for use in the final selection of seed ears of dent corn.

1. Adaptability	25
2. Seed condition	15
3. Shape of kernel	15
4. Uniformity and trueness to type	15
5. Weight of ear	10
6. Length and proportion	10
7. Color of grain and cob	5
8. Butts and tips	5
	100

Explanatory Notes

1. ADAPTABILITY: Of first consideration in the selection of seed corn. Indicated by the filling out of kernels, by ripeness and by the apparent utilization of soil and climatic conditions.

2. SEED CONDITION: Of vast importance, for seed corn that will not grow is worse than worthless. Indicated by solidity of ear and of kernels on the ear; by brightness of color, especially of germ, and by plumpness of tip. While the germination test is the final arbiter, the trained eye can determine much.

3. SHAPE OF KERNELS: Kernels should broaden gradually from tip to crown, with edges straight, so that they touch the full length, and should be wedge shaped without coming to a point. Observed from the edge they should have uniform thickness. Thin, shrunken or sharp-pointed kernels are very objectionable.

4. UNIFORMITY AND TRUENESS TO TYPE: The ears selected should be uniform in size, shape, color, indentation and size of kernel. Uniformity, or trueness to the type determined upon, is essential to progress in corn improvement. Uniformity of kernels is essential to machine planting.

5. WEIGHT OF EAR: To be determined by the use of scales after corn is thoroughly air dry. Many seasons this is not practical before January. Where the stand and other conditions of growth are equal, weight of ear is a good indication of productiveness.

6. LENGTH AND PROPORTION: Length will vary according to environment. No standard can be set by the score card save that set by maturity and proportion. Circumference is measured at one third the distance from butt to tip. It should not exceed four fifths nor fall below three fourths the length.

7. COLOR OF GRAIN AND COB: Grain should be free from mixture. Uncertain tints in cob and grain and off-colored kernels are evidences of mixing. White corn should have white cobs and yellow corn should have red cobs.

8. BUTTS AND TIPS: Kernels should extend in regular rows over the butt and against the shank. The shank, however, should have sufficient size to support the ear. Swelled, open or badly compressed butts, as well as those having kernels of irregular size, are objectionable.

The tips should have kernels of even size, well dented and preferably in regular rows. An under-sized ear is more objectionable with a completely capped tip than with a little bare cob. A sharply tapering tip is not desirable.—Ohio Station, Circular No. 86.

Pruning the Apple Tree

THE apple is the most cosmopolitan of orchard fruits and the one about which there seems to be more varied opinions in regard to the pruning of it. Every apple grower is confronted every winter with the question of how best to prune his trees. While pruning is a natural process, it should be avoided as much as possible as the tree gets older. The heaviest pruning, in proportion to the amount of tree top, is done during the first two or three years of the tree's growth. During this time the apple tree should be properly started and should be well pruned, so that when it comes into bearing it will not be necessary to prune it severely.

Two forms are generally considered in the starting of the young apple tree in the orchard—the low and high headed tree. The choice of either one of these forms depends to a great extent on the cultural methods to be followed by the orchardist, and upon the climatic conditions. The high-headed tree is perhaps better suited for Northern and Eastern conditions, while the low-headed tree is better adapted to our section of the country.

The first pruning of the young apple tree, after it has been transplanted to the apple orchard, should be carefully done, as at this time we determine the height of the trunk. The top should be cut back to about twenty to twenty-four inches from the ground. The following spring a number of limbs will develop from the trunk. Three to five limbs only should be allowed to form the scaffold. At the next pruning, the following spring, these scaffold limbs are again cut back somewhat and any interfering limbs are also removed. At the third, and even the fourth pruning, the limbs should be cut back and the tree rounded up generally.

While there are some fruit growers who claim that the bearing apple tree should be cut back every year, the nature of the growth at that time in this climate does not warrant such practise, and on the whole the results are not so satisfactory. The bearing tree should be pruned as lightly as possible. It does not produce the same rank growth that the young tree does during the first few years. A great deal of the vitality of the bearing tree is used up in the production of the fruit, and in fruit spores for the following crop.

The limbs should be cut as near the trunk as possible, so the wound may heal over quickly. Never cut limbs so as to leave a stump one or more inches in length. Such stumps if left never heal over. The healing of the wound depends on the activity of the cambium layer. This layer is most active in the spring after the tree starts to growing. The longer the wound remains exposed, the more it will dry and crack. Wounds which are made in the fall or mid-winter necessarily remain longer before the cambium layer begins to grow over them than those made in the spring just before the tree starts to growing. While trees can and may be pruned any time during their dormant period—that is, during the fall, winter and spring—the preferable time is in the spring, shortly before growth begins.—Fabian Garcia in New Mexico Station Press Bulletin.

Paint Talks, No. 5—"Spring Painting"

Spring is the time when most of the painting is done. Nature is brightening all around and the impulse is to make houses and barns and fences bright and in harmony with the new leaves and blossoms. This is good economy. You not only make things spick and span, but you save your property and make it more valuable.

Only—you must use *good paint*—pure White Lead and linseed oil. See that it is put on your buildings *pure*. Otherwise, you fail to more than temporarily beautify and fail utterly in preserving the painted things.

The Dutch Boy Painter trade-mark is the thing to look for when you buy paint materials—it is on the side of pure White Lead kegs. Ask for it, insist on having it.

A few more points on your painting: Refuse absolutely to let the work be done in wet weather, or when moisture is on or under the surface. Give plenty of time between coats—take several days between. Don't insist on using a tint which a good painter tells you is perishable. White Lead is very durable material, but if the tinting material fades out, the job is spoiled. A chain is no stronger than its weakest link.

Your dealer has our White Lead (Dutch Boy Painter Trade Mark).

Read about our "House-owners' Painting Outfit"

NATIONAL LEAD COMPANY

An office in each of the following cities:

New York Boston Buffalo Cincinnati Chicago Cleveland St. Louis (John T. Lewis & Bros. Co., Philadelphia) (National Lead and Oil Company, Pittsburg)

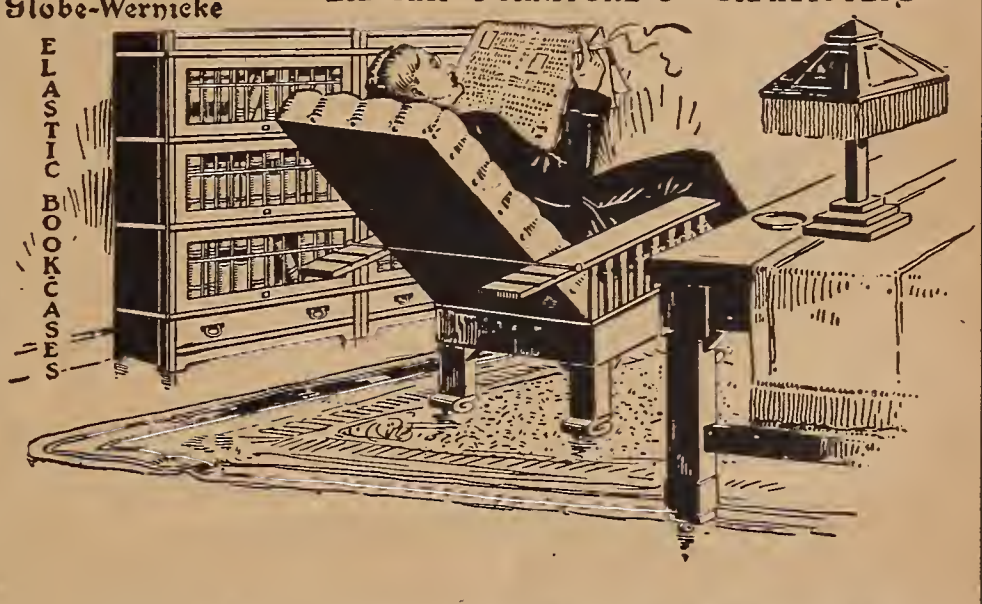
Painting Outfit Free

We have prepared a little package of things bearing on the subject of painting which we call House-owners' Painting Outfit No. 47. It includes:

1—Book of color schemes (state whether you wish *interior* or *exterior* schemes).
2—Specifications for all kinds of painting.
3—Instrument for detecting adulteration in paint material, with directions for using it.

Free on request to any reader who asks for House-owners' Painting Outfit No. 47.

Globe-Wernicke LIBRARY FURNITURE of CHARACTER



Most every progressive farmer is interested in reading these days, and in giving his children every educational advantage. He takes as much pride in his **library** as he does in his **cattle.** He can afford to pay for genuine pieces of furniture that reflect good taste and education, and his family is rising above the prize package soap and premium idea of furnishing his home.

The Globe-Wernicke method of building a library—a unit at a time—appeals to him, because it fits his needs now and will twenty years from now.

Write Dept. 25 for free catalogue containing 25 beautiful interiors for home libraries, built on the sectional plan.

We ship anywhere on approval, where not represented, freight paid. Prices are uniform everywhere.

The Globe-Wernicke Co.
CINCINNATI, OHIO

Dept. 25, THE GLOBE-WERNICKE CO. Cincinnati, Ohio.
Please send free catalogue containing 25 beautiful interiors for home libraries. This does not obligate me to buy.
Name .....
R. F. D. or Street No. .....
Town ..... State .....

The Only Harrow That Will Crush, Cut, Lift, Turn, Smooth and Level, In ONE Operation

LOWEST PRICED, LIGHTEST WEIGHT RIDING HARROW MADE

The only harrow suited to every farmer's needs, every kind and every condition of soil. It is the

ACME Pulverizing Harrow, Clod Crusher and Leveler

When you examine the construction of this harrow, and especially when you have tried it, you will understand why it has always been the favorite and why it is recommended more than all other harrows combined, in books written by agricultural authorities.

Not an inch of soil escapes the sharp sloping knives, and these knives **cut through** to the undersoil, chopping the sod or trash buried by the plow and leaving it buried, instead of dragging it to the surface.

Sizes from 3 ft. to 17½ ft. Wide

The Acme is the lightest riding harrow made, guaranteed against breakage, and will last a lifetime. Made of steel and iron. Ask your dealer. If he doesn't carry it, we'll ship direct.

Book for your farm library **Free.**

Write us now for our valuable book by high authorities on "Preparation of the Soil." It is an education in itself. We'll send complete catalogue and prices also. We want you to see what our customers say of the Acme.

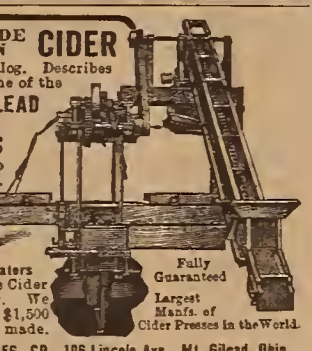
DUANE H. NASH, Inc.
127 Central Ave., Millington, N. J.

$1,500 MADE ON CIDER

Write for Free Catalog. Describes and illustrates our line of the

ORIGINAL MT. GILEAD HYDRAULIC CIDER PRESSES

Built in sizes 10 to 400 barrels per day. Hand or power. Presses for all purposes. Also Steam Evaporators, Apple-Butter Cookers, Vinegar Generators and everthing for the Cider and Vinegar-maker. We can show you how $1,500 clear profit can be made.



Fully Guaranteed

Largest Manfs. of Cider Presses in the World.

HYDRAULIC PRESS MFG. CO., 106 Lincoln Ave., Mt. Gilead, Ohio
Or Room 1190, 39 Cortlandt St., New York

POTATO DIGGER

The Hoover

Does perfect work. Fully guaranteed. Write for illustrated catalogue of Diggers, Pickers and Sorters.

THE HOOVER MFG. CO., Box No. 22, Avery, Ohio

Transfer points—Buffalo, N. Y.; Detroit, Mich.; Milwaukee, Wis.; St. Paul, Minn.; Marshalltown, Iowa; Idaho Falls, Idaho; Portland, Oregon; Spokane, Wash.; Winnipeg, Man.; Hamilton, Ont.

HURST POTATO SPRAYERS

ON FREE TRIAL. No money in advance. Pay when convenient. Doubles your crop. Prevents blight, scab, rot, bugs. Spray FIRST, then pay us out of **Extra Profit.** Powerful pressure. Cyclone agitation. Strong and durable. **Brass** valves, plunger, strainer, etc. **Guaranteed 5 years.** Wholesale prices. We pay freight. Write us which machine you prefer, and get free Spraying Guide, Catalog, and **free** Sprayer Offer to **first** in your locality.

H. L. HURST, MFG. CO., 1110 North St., Canton, O.

Take Off Your Hat to the MYERS

The only Glass Valve Pump—never sticks—never fails—always ready. Also HAY TOOLS, Barn Door Hangers, Hay Rack Clamps. Write today for Circulars and Prices.

F. E. Myers & Bro., 30 Orange St., Ashland, O.

THE PUMP THAT **PUMPS**

Monarch Hydraulic Cider Press

Great strength and capacity; all sizes; also gasoline engines, steam engines, sawmills, threshers. Catalog free.

Monarch Machinery Co., 603 Cortlandt Bldg., New York

SAW MILLS

MAKE MONEY for FARMERS

It is easy to make lumber for yourself and neighbors with an AMERICAN mill. All sizes. Work rapidly with light power. No experience needed. Get Free Catalogue and Low Prices.

American Saw Mill Mach'y Co.
130 Hope St., Hackettstown, N. J.
1026 Terminal Bldgs., New York

"KANT-KLOG" SPRAYERS

Something New

Gets twice the results with same labor and fluid. Flat or round, fine or coarse sprays from same nozzle. Ten styles. For trees, potatoes, gardens, whitewashing, etc. Agents Wanted. Booklet Free.

Spraying Guide Free

Rochester Spray Pump Co. 11 East Ave. Rochester, N. Y.

STRAWBERRY PLANTS

30 of the Best Varieties

ILLUSTRATED DESCRIPTIVE CATALOGUE FREE.

BASIL PERRY, Box 8, Cool Spring, Delaware

Gardening

By T. Greiner

Preparing a Small Garden Spot

How best to prepare a small garden in the suburbs of a city or village depends very much on its size, its general lay, and also on the help that is available in each particular case. Spading is hard work; but when you have only a spot twenty feet by forty or so to dig over, you can do it little by little without feeling it very much or hurting your back, or if you are afraid of the job, you may hire some one to do it in a few hours without great expense. A good spading fork often works better and easier than a regular spade; but if you use the latter, the edge should be kept sharp and the surface clean and bright. Dig deep, and work the manure well into the soil, breaking the lumps as you go along, and smoothing the surface of the bed as well as may be done conveniently. All this work can be done gradually as the ground is needed for planting—a little patch before breakfast and another little spot after supper, or at any time that can be spared from your regular duties in store, office or factory.

Planting Small Gardens

The garden that you spade up and plant piece by piece, and which you expect to work and hoe and weed altogether by hand with hand hoe and hand weeder, often shows off to best advantage when laid off in beds with narrow paths between them.

Such beds may be made of uniform size, say three or four or five feet wide and six or eight or ten feet long, each of them planted with one kind of vegetable. In one you may have lettuce, in another radishes, in another beets, in a fourth carrots, in a fifth onions from sets, etc. The rows may be made across the bed, say a foot apart for onions, radishes, lettuce, carrots, etc., and perhaps eighteen inches apart for beets; sow the seeds thinly in shallow drills, cover by drawing a fine-toothed garden (steel) rake lengthwise over the rows, and finally firm the soil by means of patting with the back of spade or hoe blade.

Off to one side, in longer rows and without making formal or raised beds, you may plant some cabbages, turnips, perhaps a few hills of sweet corn, and do not forget a dozen or more tomato plants and a few hills of lima beans, string beans, and if space permits, of cucumbers or melons.

It is hardly ever worth while in such small gardens to think of planting peas, as it takes quite a row to give a good mess. The few tomato plants in such surroundings should always be thinned to one or two stalks to the plant and trained to a pole or stake. You can have them two feet apart in the row. If well managed, they will make a fine show and give lots of good fruit.

Sweet corn where only a few hills are planted seldom amounts to much, and the space might better be occupied by tomatoes, vines, cabbages, cauliflower, etc. If you plant it at all, have it in a solid block of at least four or five rows.

A trifling amount of work expended on a garden of this size nights and mornings or at any convenient spare time will keep it free from weeds, and the vegetables in good growing order and often produce large and satisfactory crops of these vegetables.

An Odd Corner

Sometimes we have or can find a fence corner or other small spot that can be fixed up for a bit of garden. A friend of mine has such a spot in a corner between a little brook and the garden fence. It is hardly more than eight by ten feet long by four or five feet wide. Originally it was a low spot. My friend put on it a load or two of nice black muck, some sand and a good lot of old, well-decomposed stable manure, thus raising the bed up quite a bit and giving a good depth of loose black soil.

Any one would hardly believe what a lot of green stuff, especially such as radishes, onions, lettuce, etc., have come off this little spot year after year for the past decade or more, in fact all the radishes, lettuce, parsley, chives, green onions, etc., the family cared to have and use.

This mixture of muck, sand and decomposed stable manure is so loose that hardly a tool is needed to work it, and most of the cultivation and weeding can be done with the fingers alone. You can run your whole hand down into this soil without effort. Of course one crop after another is grown here in rapid succession, perhaps two crops of lettuce on the same spot, or radishes after lettuce, or young carrots, or table beets after green onions from sets, and so on.

Altogether this is an interesting bit of gardening, and particularly satisfactory on account of the splendid practical results.

The Larger Home Garden

When we have the larger piece of ground to work with, say eighty by two hundred feet (which means a little over a third of an acre), we can spread ourselves and our efforts considerably and secure the fuller supply of vegetables of all sorts which a fairly big household may need or care for.

This is the garden for the farm home. It calls for the use of a fairly full equipment of tools of tillage, such as ought to be found on every farm, and for a good portion of the manure likewise present on the premises. No better or more profitable use could possibly be made for the best, finest and richest of the available manure than for the production of garden crops. Put it on, and put it on thick. The richest returns will be yours.

The two-horse plow and two-horse pulverizers and drags and smoothers will get this land in proper shape. As a farmer, you have these tools on your premises and you know how to use them; so the preparation of your land for your garden is no new or unusual task nor requiring particular effort or time.

You have asked me how to lay it out and plant it so as to have a full supply of peas, tomatoes, beans, early potatoes, sweet corn, etc., for a family of five or six, or more. That is easy enough. We can do that, and much more. We can raise all the family may want, and some to sell or give away.

Planting the Family Garden

The first thing we usually plant in the garden is early peas. If we plant a row running the whole length of the garden, as early in spring as the ground can be worked, and another row a couple of weeks later, and perhaps a third still a couple of weeks later, we can count on having not only a full supply for the family, but some to spare, for at least five or six weeks—namely, the latter half of June and nearly all along through July. We usually provide even for a later supply by making additional later plantings. We make green peas, perhaps with young potatoes, and in July or later with some young carrots, the main part of the regular dinner two or three times a week.

For the first planting we select Alaska or Improved Alaska, a hardy, small blue pea of very fair quality; for the later plantings, Early Champion or any of the newer large-podded sorts that appear to do best in our particular locality. Among them are "peas of quality," and peas of largest size besides, delicious to eat.

To plant, open furrows about three feet apart and four inches deep with a one-horse plow, shovel plow or other suitable implement, then scatter the peas along, using about a quart to the one hundred feet of row, and cover with plow or hoe.

Soon after planting the first peas, make a planting of early or garden potatoes—Hebron, Early Ohio, Eureka, Irish Cobbler, or whatever early sorts you may have or prefer—planting at least half a bushel, or, better, several times that quantity. Open two or three furrows as for peas, and plant fair-sized pieces fifteen inches apart, and cover with plow or hoe.

Early in May in this latitude we plant a row or part row of early string beans (Stringless Green Pod or Valentine), and a week or two after that a row of one of the wax beans. A quart or less of seed will give you all the string beans you may want. You may plant little and often. At the same time plant a quart of Golden Bantam sweet corn, which is probably the best and the sweetest of the first-early varieties; soon after a quart or two of Metropolitan, and after that some Evergreen, or perhaps Country Gentleman, if you like that sort. We prefer the Metropolitan and Evergreen.

Fifty or even a hundred tomato plants are none too many for a family garden of this size. Have plenty and make sure of a full supply for canning and other culinary uses. Tomatoes always come handy. Then plant the cucumbers, melons and squashes, among them especially the Delicious, which is delicious indeed, and so continue planting your patch, not to forget cabbages, cauliflower, turnips, lima beans, etc. You can find room for all.

SO EASY—SEEMS LIKE PLAY

Your Boy can work all Day without Fatigue

if you have a

KRAUS Pivot-Axle Sulky CULTIVATOR

A delight to the farmer. Works so easily, operator is always in a good humor. The horses furnish the power. Wheels and shovels act together. The driver merely guides. A slight foot pressure, with no lost motion, moves the wheels and shovels simultaneously to the right or left. Responds to pressure as easily as piano keys. Width between gangs and depth of shovels instantly and easily adjusted while machine is in motion.

No Tired Feeling if You Use the KRAUS all Day

Hillsides, Uneven Land and Crooked Rows Cultivated as Easily as Level Ground.

Simplest in construction—least number of parts—nothing to get out of order. Steel frame. All castings malleable iron. Every part accessible. Built for wear and work. Light draft and perfect balance. Made in high and low wheel and Kraus Pivot Gang. Accept no substitute. If your dealer does not handle the KRAUS write us for our free descriptive catalogue.

KRAUS PIVOT AXLE SULKY CULTIVATOR TRADE MARK

AKRON CULTIVATOR CO.
DEPT. 18 AKRON, OHIO

FREE BOOK FREE BOOK

Your Name and Address That's All

OUR 1909 EDITION is the most practical text book on Strawberry growing ever written. It's worth its weight in gold because it teaches the Kellogg method of growing the world's record crops of big red berries. Every detail of the work is illustrated by photo-engravings. You read it by pictures. They show you just how to do everything from beginning to end. Strawberry growers who follow the Kellogg way are getting more fancy berries from one acre than the other fellow gets from two. The book makes you acquainted with some of these top-notch growers; shows pictures of their strawberry fields and gives their yields. This Book for your address. We'll trade even.

R. M. KELLOGG COMPANY, Box 470, Three Rivers, Mich.

Make Plowing Easy

The Wonder Plow Trucks

Make Hard Work Easy

Attach to any walking plow—one or two-horse, right or left hand, wood or steel beam. They regulate depth and width of furrow, and lighten the draft on horses at least one-third. The furrow wheel acts like a pivot, just like wheel of wheelbarrow. You do not touch your hands to the plow, except in turning at end of furrow. Your twelve-year-old boy can plow with the Trucks as well as a man. You don't need to take our word for this—test them yourself at our risk. Greatest money-maker for agents ever put on the market. They sell on sight. Big profits and good territory still open. We give a sample set of Trucks free to all new agents.

Retail price only $5.00. Write at once for full particulars.

WONDER PLOW COMPANY,
311 Factory St., St. Clair, Mich.

Sold Under Three Warrants

We sell all our seeds under three warrants, which practically cover all risks. This is the reason the largest gardeners and planters in the country sow

GREGORY'S Seeds

They take no chances. Everyone interested in vegetable and flower growing should send for

Gregory's Seed Book—It's FREE

Write to-day for a copy.

J. J. H. GREGORY & SON, MARBLEHEAD, MASS.

Billion $ Grass

SEED COSTS BUT 90c PER ACRE

Most wonderful grass of the century, yielding from 5 to 10 tons of hay per acre and lots of pasture besides. It simply grows, grows, grows!! Cut it today and in 4 weeks it looks for the mower again, and so on. Grows and flourishes luxuriantly everywhere, on every Farm in America.

Big seed catalog free or send 10c in stamps and receive sample of this wonderful grass, also of Speltz, the cereal wonder, Barley, Oats, Clovers, Grasses, etc., etc., easily worth $10.00 of any man's money to get a start, and catalog free.

Or send 14c and we add a sample farm seed novelty never seen by you before.

JOHN A. SALZER SEED CO., LaCrosse, Wis.

FOR RAPID, EASY SPRAYING

"Auto-Pop" NOZZLE.

Slight pressure on lever starts dense spray. Automatic shut-off. Doubles capacity. Saves solution, time, labor.

INCREASE THE CROPS

by using the "Auto-Pop" nozzle on the "Auto-Spray" pump. Write for factory prices, spraying guide and agency offer.

E. C. Brown Co., 18 Jay St., Rochester, N. Y.

Fruit Growing---By Samuel B. Green

Using White Willow Twigs for Baskets

S. U., Mercer, Pennsylvania—The twigs of almost any of the willows are used for basket making, provided they are long and slender. It is customary to plant the willows especially for this purpose. These are generally put out in rows four or five feet apart, and the cuttings put in about twelve inches apart in the rows. Moist, but not overly wet, sand is preferred for this purpose. After the plants are started they are cut to the stump each autumn, and the twigs are then tied in bundles.

A plantation of this kind is generally called an "osier holt," and it is customary to keep it as well cultivated as a fine garden. There is generally a good sale for willow-basket material. The first cutting is made at the end of the first year, and the stools must be cut down each autumn, whether the basket material is used or not. The regular basket willows are far better than our common willows for baskets.

Bush Strawberry

H. A. C., Jones Landing, Ohio—In regard to bush strawberry, this is a new one for me, and I do not know what it refers to. I know we have nothing of the strawberry kind that makes a bush in Minnesota or the Dakotas, and hence I am at a loss to know what plant is referred to. The most bush-like fruit I know of that resembles the strawberry is the strawberry raspberry, which is not a strawberry at all, but a form of raspberry that has come to us from Japan. This plant produces very large, beautiful, scarlet fruits on the new growth of the season which ripens in the latter part of summer.

I know that the wild strawberries are abundant in some parts of the Red River Valley and the Dakotas, and even in parts of Manitoba, but there is nothing that approaches the bush form that grows there. I rather think that the writer of the article referred to has drawn somewhat on his imagination for his facts.

Apple Twig Affected With Scale

H. N. M., Lakota, Virginia—The apple twig you sent, with a grayish-looking band about the bark, I have carefully examined. There is no sign of scale of any kind upon this piece of twig. What you take to be scale is only a natural excrescence from the bark, known as lenticels. I do not know what has caused this injury, but am inclined to think it some fungous disease which has nothing to do with scale insects. I would like to know how badly your orchard is injured with this trouble, and I am of the opinion that it is something that will not stay with you very long or cause much injury.

Book on Grafting and Budding

H. D. B., Lysander, New York—In order to be worth while, it would be necessary to take considerable space for an article on grafting, and I would suggest that if you are much interested in this subject, you would find it much better to get a small book that treats fully of this subject. You will find this matter well treated in a book entitled "Amateur Fruit Growing," that may be bought from the Webb Publishing Company, of St. Paul, in paper covers at twenty-five cents a copy.

The Large French Strawberry From Seed

Mrs. C. C., Huron, Ohio—The large French strawberry that is being advertised as coming true from seed and producing fruit in August was introduced a number of years ago by Vilmorin Andrieux and Company, Paris. It comes nearly true from seed. In growing this strawberry, if you want a bountiful crop of fruit, the flowers should be picked off in the spring. It was sent out by the above named concern as St. Anthony de Padua.

Elm Leaves Destroyed by Insects

Mrs. F. R., West Albany, New York—I do not know what insect it was that took the leaves off your elm tree, but in any case you would find a satisfactory remedy for leaf-eating insects on the elm in Paris green and water applied at the rate of one ounce to fifteen gallons.

Orchards in Minnesota

C. B., Olivia, Minnesota—In regard to profits on apple growing in Minnesota, in good locations on good soil I think apple growing can be made profitable in Minnesota. You are close to good markets, and when this crop is properly handled it has generally proven profitable. Of course there is considerable chance of the middleman taking more than belongs to him, and yet it is difficult to get along without his services. Where there are good fruit associations, the distribution is handled to best advantage. It is a very easy matter to glut the home market, but in Minnesota there is never a surplus of apples for the whole section, although in many localities there is more than a sufficient supply. A good example of co-operation is found in the fruit associations of your section. I think you might profit by their experience.

A common cellar is generally a poor place for keeping apples a long time, and yet cellars differ so in their adaptability for storage that it would hardly be fair to condemn them all.

There are no real good winter varieties of apples for your section. I think that you will get your greatest profit from such varieties as Duchess of Oldenburg, Patten's Greening and Wealthy. All of these are late summer or autumn varieties.

I hardly like to recommend you to plant out ten acres in apples, for so much of success in a venture of this kind depends on the care with which the project is carried out. I think that in the case of Western apples, the grower is at a much greater disadvantage than you who live comparatively near to the consumer.

I quite agree with you upon the advantages of co-operating, but it requires considerable education to get people to co-operate successfully.

Two-Year-Old Wood for Grafting

J. M. G., Central City, Nebraska—For grafting purposes we always prefer to use well-matured wood of the preceding year's growth. Two-year-old wood does not unite as well as one-year-old wood, and it is seldom advisable to use it. I do so only in special cases when I cannot obtain that which is most desirable. You will have many more failures when it is used than with the other.

As to how old a tree may be and still be grafted, it is possible to graft by some method or other a tree of almost any size, but we seldom get good results where the wood is over one inch in diameter. I always prefer to graft on wood not over three fourths of an inch in diameter, and to use a whip graft. Branches of this size heal over quickly and do not make bad wounds. The objection to grafting on larger limbs is the difficulty of securing a good union. Trees eight years old may very likely be grafted successfully, but the grafts should be inserted upon the branches at some little distance from the trunk, where good places may be found.

Best Time to Destroy Persimmon Roots

E. W. B., Fort Scott, Kansas—All our woody plants of the Northern States are easily destroyed by cutting them off from the middle to the last of June. At this season the plant food, which was stored up the preceding year for the purpose of starting the plant into growth, has been exhausted, and the plants are largely dependent upon the food which they take in, and are beginning to store up food to carry them through another winter. If cut at this time they may sprout a little, but it will only be in a weak way, and if again cut it is generally enough to subdue them completely. I think by treating the persimmon sprouts in this way you will succeed in destroying them.

Growing Basswood Seedlings

J. A. L., Morris, Minnesota—In regard to the propagation of the American linden or basswood, I think the best way to handle it is to sow the seed in the spring of the year in soil that will not pack. Sow in drills about six inches apart, and cover the whole bed about one and one half inches deep, and then over the whole put about two or three inches of hay or litter of some kind. The seed will not start into growth until a year from the spring after it is gathered. It is sure, however, to come up and give a good stand at that time, when the hay should be removed. There is no difficulty about growing it, except the fact that you have to wait so long for it to start.

There is no necessity of putting the seeds in sand and letting them freeze before planting. It is best to keep them in a cold place over winter. When the seedlings are one year old they may be transplanted to rows about four feet apart, and the plants twelve inches apart in the rows.

Time to Transplant Fruits

W. McF., St. John, Utah—The best time to transplant all of our fruits, speaking in a general way, is while they are dormant, and in the latter part of winter or early in the spring, after the ground has settled and works easily. In the Northern states it is customary to set all the varieties of small fruits except the strawberry and blackcap raspberry in the autumn, when practical to do so. I do not think this quite so good a time for such work as the spring, but if done in autumn, then it is out of the way of the rush of spring work. Strawberries and blackcap raspberries are much more safely transplanted in spring than in autumn.

I think the best time to prune fruit trees, where only a light pruning is to be done, is some time in June in the Northern states. If considerable heavy pruning is to be done, then it is generally best to do the work in the latter part of winter, when the frost is out of the trees and before any sign of growth has been made. All wounds made in pruning, over three fourths of an inch in diameter, should be covered with white lead or wax.

Tussock Moth

W. F. M., Worthington, Minnesota—The insect eggs you sent were white in color and firmly attached to the side of dead leaves. These eggs are probably those of the tussock moth. They hatch out in the spring of the year, and the young eat holes in the foliage of the trees. Probably the best remedy for this pest is to spray the foliage of the trees with Paris green and water or arsenate of lead and water. If treated with Paris green in about the same way it is used for the potato bug, good results will generally follow. This spraying should be done as soon as the young worms appear, and repeated occasionally until they are all gone.

POTASH

means dollars in the grower's pocket. Perfection of size, color and flavor as well as large yields of

All Kinds of Fruit

are secured by the use of fertilizers rich in **Potash**. See that your fertilizer has enough Potash—at least 10%, and send to us for Free Literature telling how much each kind of fruit ought to have to get best results.

Valuable Literature on the Cultivation and Fertilization of all Fruits, Vegetables and Grains sent Free on request.

GERMAN KALI WORKS
93 Nassau St., New York
Chicago, Monadnock Block Atlanta, Candler Bldg.

Save Money on Berry Boxes and Baskets

Fruit and Vegetable Packages and Growers' Supplies of all kinds. Write for free money-saving catalogue and price-list D.
Largest Factory of its Kind in the Country.
NEW ALBANY BOX & BASKET CO., New Albany, Ind.

Can Your Own Vegetables & Fruit. Keep profits at home. Information FREE.
CANNERS' SUPPLY CO., DETROIT, MICH.

BURPEE'S Seeds Grow! And the Burpee Business Grows! We shall be pleased to send THE SILENT SALESMAN of the World's Largest Mail-order Seed Trade,—if you *ask for it*, with the statement that you value QUALITY IN SEEDS. An elegant Book of 174 pages, it tells the plain truth about the Best Seeds that can be Grown. Do you want a copy? If so address **BURPEE, Philadelphia**

500,000 FLORAL HOMES are made BRIGHTER and HAPPIER the year 'round by the monthly visits of ***Park's Floral Magazine***, the oldest, most practical and most popular journal of its class in the world. 38th year. Original, finely illustrated, and literally packed with just the information that delights the flower lover and flower grower. Only 10c. a y'r.

20 Fine Gladiolus 5 cts.

When subscribing add 5 cts. (total 15 cts) and I'll mail you, prepaid, **20 Gladiolus**, splendid blooming-sized bulbs, finest Dutch strain imported. I secured these at a marvelous bargain from the specialist who needed the cash, so may never be able to make such an offer again. They'll yield flowers unequaled in richness, variety and beauty—something different! Club of two 30 cts, with extra bulb of the new, charming spotted Gladiolus trimaculatus. Club of five 75 cts, including the Spotted Gladiolus and a fine bulb of the grand, rare, hardy, and fragrant white Lilium Takesimum, just imported from Holland. Club with friends. Order now. This ad. will not appear again. Adr's ***Geo. W. Park*, B67, *LaPark, Pa.***
STILL MORE. Park's Floral Guide, a richly illustrated annual, all about flowers, also free with the above.

You Can INCREASE Your Corn Crop 30%

or more by using only such seed as has been carefully graded. You will also get far better corn. Government tests have proved that the main cause of *small* crops is an uneven stand. No corn-planter, whatever its merits, can drop seed evenly, *if the seed be carelessly graded or of all sizes that come from the ear*. But, *with seed carefully graded to a uniform size*, any good corn-planter can be depended upon to drop every grain just where you want it and thus make every inch of your ground do the service that it should. Government tests also have proved that the main cause of *poor quality* in corn is the planting of seed *not well selected*.

Careful Grading, Therefore, is at the Very Basis of All Richly Successful Corn Production.

$1,000 PRIZE EAR OMAHA EXPO.

$ The Simplex All-Steel Seed Corn Grader $

easily and quickly separates, in a new and scientific way, the *full, perfect, evenly-shaped* grains from the large, irregular, unshapely grains. Money back if not delighted.

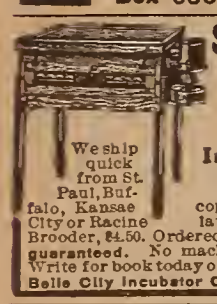
Grades more corn and grades it better than any other device on the market, *regardless of price*. Capacity, 10 to 15 bushels per hour. A boy can work it. No machinery to get out of order. *Made entirely of steel*—nothing to wear out or rot—will last a lifetime.

Simply slip a dollar bill in a letter and mail to us. *You will never invest a dollar that will bring you greater returns.* Grader will reach you promptly. If you don't find it is worth its weight in gold, return it and get your money. Thousands in use. Order today, and we will send with Grader, booklet—"BUMPER CORN CROPS—HOW TO SECURE THEM."

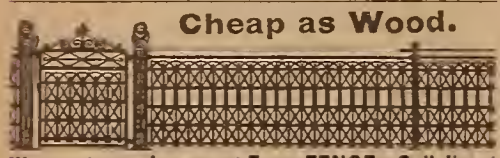
THE EDWARDS MANUFACTURING CO. 801 to 841 Lock Street, CINCINNATI, O.
Largest Manufacturers of Iron and Steel Roofing in the world.

SAVE MONEY ON ROOFING
$1.00 buys full roll (108 sq. ft.) of strictly high grade roofing, either rubber or flint coat surface, with cement and nails complete.
Most liberal offer ever made on first class roofing. Better than goods that sell at much higher prices. Don't spend a dollar on roofing until you have seen
UNITO ASPHALT ROOFING
You send no money when you order Unito Roofing. Satisfaction Guaranteed. Write today for free samples for test and comparison and our unparalleled selling plan.
UNITED FACTORIES CO. Dept. A49, Cleveland, O.

ANNOUNCEMENT OF
PAGE FENCE
"JUBILEE YEAR"
This is the Quarter-Centennial or "Jubilee Year" of Page Fence. To celebrate the twenty-five years' triumph of the Pioneer Woven Wire Fence, we are preparing a "Jubilee Edition" of the Page Fence Catalog for free distribution. It is the most interesting, unique and valuable Fence Book ever printed. It tells the story of Page success, from the first fence sold to the present time, when over 800,000 progressive farmers own and praise Page Fence. Gives the reasons for the use of Page Fence by the Government as the highest standard of quality. Handsomely illustrated. Filled with important Fence facts. Send today. Its FREE.
Page Woven Wire Fence Co.
Box 65C Adrian, Mich.

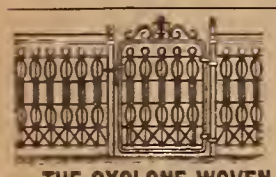


$7.55 Buys the Best 140-Egg Incubator ever Made
Freight Prepaid
We ship quick from St. Paul, Buffalo, Kansas City or Racine
Double cases all over; best copper tank; nursery, self-regulating. Best 140-chick hot-water Brooder, $4.50. Ordered together $11.50. Satisfaction guaranteed. No machines at any price are better. Write for book today or send price and save waiting.
Belle City Incubator Co., Box 100 Racine, Wis.

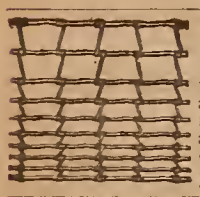


Cheap as Wood.
We manufacture Lawn and Farm FENCE. Sell direct shipping to users only, at manufacturers' prices. No agents. Our catalog is Free. Write for it to-day.
UP-TO-DATE MFG. CO., 971 10th St., Terre Haute, Ind.

15 Cents a Rod
For a 22-inch Hog Fence; 16c for 26-inch; 19c for 31-inch; 22 1-2c for 34-inch; 27c for a 47-inch Farm Fence. 50-inch Poultry Fence 37c. Lowest prices ever made. Sold on 30 days trial. Catalog free. Write for it today.
KITSELMAN BROS., Box 271, MUNCIE, IND.



The Cyclone Catalog of Fences and Gates is full of good things on the protection of lawns, trees, flowers and shrubs. Let us mail you one.
THE CYCLONE WOVEN WIRE FENCE CO.
1238 E. 55th Street, Cleveland, Ohio



48 IN. FENCE a rod 29c
Best high carbon coiled steel wire. Easy to stretch over hills and hollows. FREE Catalog—fences, tools. Buy from factory at wholesale prices. Write today to Box 86.
MASON FENCE CO., LEESBURG, O.

LAWN FENCE
Many designs. Cheap as wood. 32 page Catalogue free. Special Prices to Churches and Cemeteries.
Coiled Spring Fence Co. Box 414 Winchester Ind.

ORNAMENTAL WIRE AND STEEL FENCE

Cheaper than wood, combining strength and art. For lawns, churches, cemeteries. Send for FREE CATALOG. Address.
The Ward Fence Co.
Box 665 Decatur, Ind.

PENNY INVESTMENT

for a postal card brings our profit-producing poultry book—filled with interesting, instructive, income-increasing information. Fully describes the world's best and only "Reliable Incubator," and proves that it is the best. Write today.
Reliable Incubator & Brooder Co.
Box D 41 Quincy, Ill.

100 Egg Incubator $7
100 Chick Outdoor Brooder $4
Both—Freight Paid $10
Copper Tanks, Double Walls, Self-regulating, Safety Lamp and Thermometer complete. Its equal for the money does not exist. Order direct or full description free for postal.
WARRANTED 5 YEARS
Advance Mfg. Co., Box 35, Dayton, Ohio

FOY'S BIG BOOK, MONEY IN Poultry and Squabs. Tells how to start in small and grow big. Describes largest pure bred Poultry Farm in the world. Tells how to breed and feed, all about diseases and remedies. Illustrates many varieties of land and water fowls. Quotes lowest prices on pure bred fowls, eggs for hatching, incubators and brooders. Mailed for 4cts. F. FOY, Box 10, Des Moines, Iowa

Greider's Book on Poultry
Shows and describes sixty breeds, and lowest prices of stock and eggs. All details—hatching, raising, buildings, egg production, diseases, etc. Fifteen handsome chromos. 10c postpaid.
Greider's Germicide keeps fowls healthy.
B. H. GREIDER, Rheems, Pa.

90 Varieties Poultry, Eggs, Pigeons, Hares, Dogs, Angora Goats, etc. 60 Page Book FREE. Colored Book, 10c BERGEY'S FARM, Telford, Pa.

64 VAR. POULTRY. HARES. 20 EGGS $1.00. Stock for sale. Cat. and show winnings free. H. D. ROTH, Box 2, Franconia, Pa.

About Practical Poultry Raising

Pen for Feeding Young Chickens

I HAVE tried the A-shaped slatted crate for feeding young chickens, which has the advantage of allowing a change of feeding ground, since it can be lifted from one place to another as often as the attendant sees fit to do so.

There is one defect, however, that I have never been able to overcome satisfactorily—the slanting sides give the old chickens an opportunity to reach in between the slats and help themselves from the outside.

Last summer we had a lot containing five or six square rods, which had been enclosed with a picket fence. This had been used to enclose a few select hens for the purpose of saving eggs for hatching. We did not have occasion to use it for that purpose last year, so it was used for a feeding ground for the young chickens.

The chicks soon learned to go there when they were hungry, and as some food was kept there during the daytime, it kept them from straying away so far. They could range about in search of bugs, worms and grass outside, then when a chick felt that he wanted some grain to balance up his ration, he went to the feed lot. The season was very wet, but the feeding ground did not get muddy, as it was a rather sandy soil, and we found it much more satisfactory as a feeding arrangement than anything we had tried before. A. J. LEGG.

Cement Nest Boxes

AT THE cement show recently held in Chicago a deal of attention was drawn to a concrete nest for poultry yards. The contrivance was constructed on the individual plan, a box-like form with an oval top, and with a single aperture in front, and planned as a single nest, in which a hen is expected to make herself at home, straw forming a tempting bed inside. The inventor claims that this kind of nest has been tried with considerable success, that to the average hen the block of cement looks like a good place to crawl in and deposit an egg.

The nests are designed for use either in a hen house or to line the sides of a poultry yard. It is claimed that when set on the ground the porous material will absorb natural moisture and retain the heat required in the hatching process.

The nests are cast from molds, and the originator claims that a single nest contains about four cents' worth of material. The originator claims that the nests may be fitted with woven-wire gates constructed on the trap principle.

J. L. GRAFF.

Practical Method of Setting Hens

MY EXPERIENCE in setting hens has been a very successful one. One of the first things, select a suitable place where wind and rain cannot enter and where there are no rats. Don't try to set hens in the house where you keep your other fowls. No matter if they are shut in, the other fowls will bother them and cause them to be uneasy and break their eggs, with the result of a poor hatch.

For nests I use cheese boxes, which can be procured from the grocer's at five cents each and in some instances for the asking. These boxes, being round and low, insure against the eggs being broken by the hen jumping down into the nest. In the bottom of the nests place some slightly moistened earth, then fill in as full as you can of fine hay, packing it very firmly and sprinkling a good lice powder thoroughly through the hay. After every hatch the hay is destroyed by burning, and replaced with fresh hay, to guard against lice. After filling the nest with hay, place some nest eggs therein. After dark get your sitting hen, dust her thoroughly with lice powder, place her gently on the nest, cover her with a splint bushel basket, and let her sit. Then put a box of road dust for a dust bath in the room, and have plenty of clean, fresh water, corn and grit always accessible. On the following evening uncover your sitting hen. In the morning she will come off to eat and will return to her nest. Let her sit until she thoroughly makes up her mind to stay, then place from thirteen to seventeen eggs under her, according to the size of the hen.

I have had as many as eighteen hens sitting in the same room, with no disturbances and no broken eggs. Try this method and you will have no broken eggs and it will not be the hen's fault if the eggs do not hatch. This depends much upon the fertility of the eggs.

In my experience, Plymouth Rocks or Wyandottes make the best sitters. They are not so likely to step on and break the eggs as a heavy Cochin or Brahma, which are generally clumsy. Study your hens; find out which are the best sitters. If a hen fools you once, she will be likely to do it again.

As soon as the chicks begin to hatch, remove them to a basket and keep them where it is warm until all are hatched, when they are placed with the hens. It is best to set as many hens as possible at one time, so when the hatch is completed two broods can be put with one hen. I put twenty chicks with a good-sized hen if the weather is warm, but in colder weather about twelve are enough.

A. E. VANDERVORT.

About Broody Hens

THERE are times when broody hens are very useful, and there are times when their presence is a source of much bother. Late in the season, when the hatching is over, they are not profitable, but in many flocks they are numerous at that time.

I have observed with interest that my most persistent layers were as a rule the least inclined to become broody, and were the most easily broken up when they did. However, this is not always the case. I have now one Rhode Island Red hen, a very active and persistent layer, which I think was broody at least a dozen times last summer, although she was easily broken up each time.

I have noted, too, that some very persistent layers that never showed signs of broodiness, and others that never were allowed to sit, have held their vigor and continued their usefulness an unusual length of time. By retaining these specimens three or four years, and in a few instances five years, I am satisfied that those individuals that had never been broody, and also those that had been broody, but were not allowed to sit, would as a rule be the longest lived. There are exceptions to this, but we do know that a non-sitting breed will keep its vitality for a greater length of time than one that becomes broody.

VINCENT M. COUCH.

Naphthalene Lice Killer

"A SUBSCRIBER" asks us to complete the formula given below for killing lice on poultry: Kerosene, one gallon; finely pulverized naphthalene; crude carbolic acid, one gill; oil of cedar, oil of sassafras and oil of pennyroyal each one tablespoonful; coal tar, one gill; crude petroleum, one quart. The quantity of naphthalene is desired.

The formula given above is a new one to the writer and he is not able to find it in any work on the diseases of poultry. It may be said, however, that it would seem as if one pound of the naphthalene would be enough for this mixture.

And in the judgment of the writer, the oil of cedar, sassafras and pennyroyal are not necessary to make the recipe effective. They add little or nothing to its worth. Therefore, they may be left out. The caution may also be given to be careful about using kerosene very freely on fowls. It is a powerful irritant and may work more harm than good if not used judiciously. About as simple a remedy for the common louse as can be devised is this: Take flake naphthalene and dissolve all the liquid will take, and then paint the roosts and nests with the solution every week or so for several months.

E. L. VINCENT.

Shipping Poultry

THE preparation of fowls to be shipped to customers has a great deal to do with the impression they make upon arrival at their new home, and in many cases decides whether you have made a friend of the customer or have added to the list of those who think poultrymen in general are an uncertain lot to deal with. Many a shipment of birds well worth the price paid for them, and good breeders selected by one who understands the requirements of good birds, has been turned down as unsatisfactory for no other reason than that "they did not look good" because of hurried work in fitting or sending out in cooping that had a "don't-care look" or "did not know how" appearance.

Upon receiving an order for fowls, I at once select the trio pen, or other number that may be ordered, and pen them by themselves for a time before shipment, in this way having the birds under easy conditions for determining if there should be any not suited to the purpose or in any way out of condition. Good, comfortable housing with clean straw to work in and moderate feeding for a day or two should be given fowls to be shipped away, and dusting with a vermin killer of some sort that will prove effective puts them in shape to stand travel in comfort when cooping is well arranged for feeding and water during the journey.

The Best Shipping Coop

Shipping coops should be of all wood. These are to be had at a small cost at the supply houses, or if not to be had easily, they can be made neatly and light from such material as clean orange and lemon boxes by nailing the thin boards within two light frames and putting on slightly heavier boards for the floor. Arrange the coops, if you make them yourself, so they shall have a space at the top that cannot be covered wholly if other packages be piled on top of them; this is essential where birds travel in summer time and in close, hot cars. The ready-made coops are planned for this and need only to be nailed together.

Examine each bird carefully as they are placed in pens for shipment, and at night see that each bird has a full crop, showing them in good condition. Never send out a fowl about which there is the least doubt as to health, as you only breed trouble by so doing, and lose the confidence of your customer if he finds he has a sick bird on his hands, and you must, if you have taken such a chance, replace it with a well one at considerable loss of time and money. Many fowls shipped away will, we know, go to homes that are far from what they should be for best conditions, but let them be clean when they start, washing feet and shanks as well as faces and soiled feathers with warm water and soap, giving them time to dry thoroughly before cooping; in fact, give them about the same treatment they would get were they to be sent to your first show. It pays.

About Feeding in Transit

Birds that will reach their destination within thirty-six to forty-eight hours if well fed before starting and a reasonable amount of grain placed in the coop, will not need feed sent along; but if there is any liability of delay, send along a sack of feed and grit attached to the coop in such manner that it may be easily handled, and write instructions plainly on the coop for feeding.

As a rule, fowls in transit suffer more often for lack of water than feed, and one should see that a cup easily filled is where it can be seen and attention called to it in the directions written. We cannot go with the fowls we send out, and at times they are given but little attention while traveling, but if well cooped, and arrangements for feed and water are easily managed, there are few who will willingly see them suffer along the route. We have found it a good plan in shipping to place in the coop fresh cabbage or lettuce or any other green stuff that will in a great measure make up for a lack of water if they should be overlooked while in the cars.

If a number of hens and male birds are to be forwarded at the same time to one address, coop these separately, as there will be less liability to injury while traveling, and the males will be much more quiet if in separate coops or separated by light partitions. The time of day has something to do with a good start, and if going a distance where they will not get through in one day or make their arrival too late to be delivered, we have found it an advantage to the chicks to be started out at evening, as it soon becomes dark and they settle down, becoming accustomed to the motion of the train, worrying less as they stir about the next day.

Shipments by water take some additional work for cooping and heavier material. This adds but little to charges, however, as steamship transportation is reckoned by cubic feet space rather than by weight. Coops that will withstand the weather should be made of toughened and grooved lumber, so as to turn water, as these coops are many times carried on deck and must be made tight.

For bedding in coops either straw or chaff answers nicely, or if they can be had, rice hulls are much better than anything else, as they quickly absorb moisture and droppings and keep the fowls much cleaner while shut up. Sawdust is another good thing and easily procured in most places. See that no nails are driven through, for the chicks to hurt themselves on; have them clean and free from lice, be sure of health and your customer will be glad that he sent you his order, and he will also tell others about you. A well-pleased customer is better than money.

C. A. UMOSELLE.

About Practical Poultry Raising

Success With Turkeys

We have been raising turkeys for nineteen years, and while we never made a total failure, it is only recently that we have learned how to succeed. There is no mystery about the business, but there are very few people who have good success with turkeys from the start.

Some try to raise turkeys the same as chickens. They feed the poults everything that they are in the habit of feeding to chicks. This won't do. Their digestive organs are not so strong as those of other young fowls, and their food must be suited to their needs. Overfeeding is one cause of loss among beginners. Young turkeys will eat whatever feed is offered, even when their crops are apparently full to bursting. Overfeeding brings on indigestion and soon the poults begin to droop and die. It is seldom that a sick turkey can be doctored with success.

Very little grain should be fed while the turkeys are small, and sour-milk curd is not to be recommended, although some turkey growers still feed it. When their poults die, as they frequently do, from its effects, the trouble is seldom traced to the real cause. When turkeys have free range they require very little food in addition to the insects, grass, etc., which they find in the fields. They thrive on these because they are their natural food.

About the first thing a young turkey requires after leaving the nest is sunshine. A great many people make the mistake of placing young turkeys in close coops. Turkeys, both old and young, need plenty of fresh air and exercise; they can get neither of these in an ordinary coop.

Dampness is not good for poults, and lice will kill them faster than almost anything else. They are more apt to get lousy if kept in small coops than otherwise. The surest way to prevent lousiness is to hatch the eggs under turkey hens. They never have lice unless they have been kept in a building with chickens. At least this has been our experience. Our turkeys were always troubled with lice when hatched and raised with chicken hens.

The only advantage in hatching with chicken hens is that by this plan the turkey hens can be induced to lay several clutches of eggs in a season. But we have decided to hatch with turkey hens exclusively hereafter. The poults thrive better because they take more exercise. Chicken hens will never go out into the fields to hunt. They stay around the buildings and wait for feed, while a turkey hen takes her brood and forages far and near.

We never tried hatching turkeys in an incubator, because they would have to be placed in a brooder, and it would be a long time before they would learn to hunt for insects on the range. This is not a matter of economy. Overfeeding has always been our failing. It took years of experience to teach us that a very little grain was required when they could get plenty of grass and insects.

Here is our method of feeding: No feed is offered until the poults are about forty-eight hours old. They are always removed from the nest soon after they are hatched, and placed in the warm sunshine, or, in case there is no sunshine, in a basket near the stove. The first feed given is hard-boiled eggs and dry bread crumbled fine and sprinkled with clean, coarse sand. This is continued for several days, being fed alternately with rice cooked so it is tender and the grains separate. Tender grass or onion tops chopped fine are also added to the ration, and are always greatly relished.

As we have a large house for our turkeys, they are kept confined until the poults are strong enough to follow the hens. If the weather is good, they are usually given free range when four days old. The doors and windows of our turkey house are fitted with wire screens and on rainy days we keep the young turkeys indoors; also in the morning, until the dew is off the grass. While very small they are always driven to shelter when storms are approaching.

Last year we fed our turkeys only twice a day, a little steel-cut oats being given morning and evening when they had free range. This was continued until they were five weeks old. Then two of the poults began to show signs of indigestion. Both died in a few days, after beginning to droop. We had noticed that their crops appeared to be very full when they came in at night, but never suspected that they were being overfed, because they always looked for feed, even though their crops were full. However, the evening ration was discontinued, after the two poults died. That was the end of the trouble. No more died or showed any signs of disease. This convinced us that they had simply been overfed and their digestive organs could not stand the pressure.

On rainy days, when they were kept in the house, we fed a little steel-cut oats morning and evening, and cooked rice at noon. Chopped onions or dandelion leaves were added to every meal. Turkeys cannot thrive without green food. As they grew older whole wheat was fed instead of oat meal. Pure water, grit and charcoal were always provided.

Anna Wade Galligher.

Feeding the Chicks

We are positive that there are hundreds of little chicks from a few days old until several weeks old that are lost upon every farm from mistakes in feeding. It appears as though it might be very easy to feed chicks and make them grow, providing they are given all the feed they can consume, but this mistake is more often the cause of loss than scanty feeding.

Many poultry raisers still insist upon feeding the materials moistened, or sloppy, when it should not be fed in this manner at all. We long ago determined that it is a mistake to stir up a mass of feed into a sloppy condition, and dish it out to our chicks in generous quantities, and what they will not consume allow to sour and become unfit for their use.

All our chicks are now fed upon dry cracked feed, and we find that we do not have the disorders in our yards that we had with the old system.

On the farm we have all the condiments to make up a splendid ration for these chicks, for with the mixture of corn, oats, wheat, barley, buckwheat, millet, some coarse sand and gravel, with crushed oyster shells in needed quantities, all crushed in a feed mill and mixed together, we have a supply of feed that will put to shame some of the patent mixtures compounded for our use. Then with a few pounds of cracked oats and millet seed fed dry to the infant chicks until they can consume and digest the coarser farm grains we can start our chicks off in a manner that will make a profitable bunch of fowls, providing they are kept clear from lice and not allowed to become half starved in order to stimulate a filthy crop of lice.

We just allow the bunch of chicks what feed three times each day they will clean up quickly, and let them forage for a portion of their keeping, for we can so gorge them with grain foods that they will soon become discomfited and drone about their quarters, not getting the required amount of needful exercise, which a thrifty bunch of chicks should have to grow into profit.

Remember that it is the folly of overfeeding and gorging their crops that causes bowel disorders more often than any one cause excepting chilled feet, which should be avoided by providing board floors for all early chicks to hover upon during the night time.

Geo. W. Brown.

Probably Limber Neck

A lady friend writes as follows: "A disease has been attacking my chickens at intervals for four years, the principal symptom of which is a crooked neck. They live for weeks after the first symptoms appear, till the neck gets so they cannot get the head to the ground, and then die. The neck bone always forms a sharp S in shape, the lower part protruding where the crop should be. What is the cause and cure?"

This is probably the old trouble of limber neck. Does not our friend find the trouble to come on in warm weather? And does she not, along about that time, feed meat that is partly decayed or some preparation of meat or animal matter that has become partly decayed? Limber neck is caused by ptomaine poisoning, which shows itself in a partial paralysis of the muscles of the neck, resulting frequently in the death of the birds. Sometimes we are told that eating maggots from any source produces this disease, but it has been observed by some of the best poultrymen that maggots themselves do not bring on this trouble unless the ptomaine poison is also present.

It is never best to feed any meat or other animal matter that has come to a rotten condition. Bury this beyond reach. It is not easy to treat birds affected by limber neck. Half a dozen drops of turpentine in a spoonful of water may be tried. Also a small teaspoonful of castor oil will sometimes bring relief, and possibly cure.

E. L. V.

Hon. W. M. Hays, Assistant Secretary of Agriculture at Washington, D. C., calls attention to the fact that two thirds of our population two generations ago were agricultural, while only one third is at this time, also to the fact that fully two thirds of the total population are now engaged in pursuits other than agricultural.

WATERPROOFED LINEN
LITHOLIN
COLLARS AND CUFFS
COLUMBIA YALE BARNARD STEVENS
Needed by the Farmer
If you wear LITHOLIN Waterproofed Linen Collars and Cuffs they keep their shape anywhere and don't fray. There's no laundering—you just wipe them clean, and they are like new. You save not less than $16 a year. Unlike Celluloid and Rubber, they look like ordinary linen, and are cut in every fashionable style, and in all sizes. Have clean linen all the time, at no cost.
Collars 25c. Cuffs 50c.
Always sold from Red Boxes. Avoid substitution
If not at your dealers, send, giving styles, size, number wanted, and we will mail, postpaid. Booklet of styles free on request.
CORNELL ANN ARBOR WEST POINT VASSAR
THE FIBERLOID COMPANY
Dept. 14, 7 Waverly Place, N. Y.

125 Egg Incubator and Brooder Both For $10
If ordered together we send both for $10 and pay freight. Well made, hot water, copper tanks, double walls, double glass doors. Free catalog describes them.
Wisconsin Incubator Co., Box 60, Racine, Wis.

FENCE Strongest Made
Made of High Carbon Double Strength Coiled Wire. Heavily Galvanized to prevent rust. Have no agents. Sell at factory prices on 30 days' free trial. We pay all freight. 37 heights of farm and poultry fence. Catalog Free.
COILED SPRING FENCE CO.
Box 18 Winchester, Indiana.

ORNAMENTAL FENCE
25 DESIGNS, ALL STEEL.
Handsome—cheaper than wood—more durable. Special prices to churches and cemeteries. Don't buy a fence until you get our free catalogue.
Kokomo Fence Machine Co., 427 North St., Kokomo, Ind.

FENCE AT PANIC PRICES
We purchased raw material cheap during the panic, you get the saving. These low prices won't last long. Write at once for catalogue and prices. Anchor Fence & Mfg. Co., Department D :: Cleveland, Ohio

WARD FENCE Farm and Poultry.
Old fashioned galvanized. Elastic spring steel. Sold direct to farmers at manufacturers prices. Write for particulars.
Ward Fence Co., Box 532 Decatur, Ind.

Let Me Pay the Postage on My Big Free Buggy Book to You
Though these books cost me 8c each for postage alone, yet I'll gladly send you one free because I want you to know about Split Hickory Vehicles—made-to-order—sold direct from factory to you at home on 30 Days' Free Road Test—guaranteed 2 years.
Book Tells How I Save You $26.50 on Split Hickory Buggies
H. C. Phelps
—tells why I can save it to you and just where the saving comes in—also tells how I save you at the same ratio on over 100 styles of Split Hickory Vehicles—more vehicles than you could see in 10 big store rooms. Better send for this book, sit down of an evening and look it over. It's full of actual photographs of Vehicles and Harness of every description. It's my latest and best book—for 1909—and it's truly a Buggy Buyers' Guide. It not only gives descriptions and prices in detail, but also tells how good vehicles are made—why they are better made my way—all running parts made of second growth Shellbark Hickory, split with the grain, not sawed across it, thus giving extra strength and long wearing qualities. It tells about one of my latest features—Sheldon Genuine French joint automobile springs, making the easiest riding buggy on the market—even riding over rough roads is a pleasure with a "Split Hickory."
Buying direct from the factory brings you in touch with the people who make your vehicle. My two years' guarantee is to you direct—my 30 Days' Free Road Test is to you direct—my price to you direct—no roundabout transaction as when buying through a dealer—keep the dealer's profit to buy other things with—all meaning a big saving and more satisfaction to you.
Will you let me mail you the book? Will you write for it today. Address me personally
H. C. Phelps, President,
THE OHIO CARRIAGE MFG. CO., STATION 23, COLUMBUS, OHIO
Write For Split Hickory Buggy Book Today-Free
Split Hickory Vehicles Sold Direct from Factory to Home. 30 Days' Free Road Test—Two Years' Guarantee.

Buy a Freight-Paid BUGGY $51.95
A rig laid-down at YOUR railroad station. You know the exact cost—no figuring—no guessing—easy to compare prices with your home dealer—no chance for argument. The buying simplified and with it Ward Quality.
Genuine hickory ⅞-inch wheels. Long-distance axles. Oil-tempered, Elliptic springs. Steel Bailey loop. Full under-circle anti-rattling fifth wheel. Double-braced, full ironed hickory reaches. 24-inch hardwood frame body. Triple-braced, solid panel seat back. Auto high seat sides. Special "Ward" seat ironing. Leather quarter top. Heavy rubber side curtains. Solid board boot. Steel frame leather dash. Double-braced hickory shafts. Body painted black, all hand work. Gear Brewster green, red or blue, all hand work. Auto cloth upholstering. Furnished complete with carpet, storm apron, side curtains, anti-rattlers, Warranty Against Defects and a Guarantee of Satisfaction, at the prices named below, Delivered at your railroad Station. Order No. J 111—Illinois. Indiana, Michigan and Ohio..... 51.95
Connecticut, Delaware, Iowa, Kentucky, Massachusetts, Maine, Maryland, New York, New Hampshire, New Jersey, R. Island, Tenn., Virginia, W. Virginia and Vermont, 54.15
Missouri, Pennsylvania and Wisconsin.....$53.00
Is there any good reason why one or more middlemen should come between the manufacturer of vehicles and the user? The actual value of a buggy whether it is made in our factory or any factory anywhere is the manufacturer's cost. Anything over that is too much except a reasonable and fair profit to the factory. Is not that so? OUR factory is exclusively for users and the only one in the United States where the entire output is shipped direct. We are saving our customers from 25 to 40 per cent on every vehicle purchased.
We want you to know the real facts about our rigs. We want to send you free, a copy of our large, new, SPECIAL VEHICLE CATALOGUE just off the press, containing the most open, frank, down-under-the-paint description of vehicle work ever put out by a vehicle manufacturer and the prices are the lowest ever known on first-class work.
Our methods are fully explained—our Warranty against defects—our absolute Guarantee of Satisfaction. 300,000 copies ready for distribution. Write today, sure. You cannot afford to be without it. No trouble to answer questions.
Delivered to your station in Indiana, Illinois, Michigan and Ohio.
Write for Prices to Your Station
Montgomery Ward & Co., Michigan Avenue, Madison and Washington Streets Chicago

No Discarded or Abandoned Inventions of its Beaten Competitors are used in

THE IMPROVED

UNITED STATES SEPARATORS

THE UNITED STATES SEPARATORS ARE IN A CLASS BY THEMSELVES

The United States use inventions of their own **exclusively.**

The United States do not utilize any type of separator ever developed by their **"Would-be Competitors."**

These **"Would-be Competitors"** claim the earth, but "word claims" do not give them the title.

These **"Would-be Competitors"** claim that Dr. DeLaval was the inventor of "the first practical continuous flow centrifugal Cream Separator," his application being filed "July 31, 1879, Patent issued, No. 247,804, Oct. 4, 1881." This statement is not true as shown by the records in the Patent Office. Messrs. **Houston & Thomson** (who afterward became famous in the electrical line) **were the first** to be awarded a patent on such an apparatus. Application filed Oct. 29, 1877. Patent issued April 5, 1881, No. 239,659.

This Houston & Thomson Separator was also of the "Bevel Gear" type and was for either hand or power, therefore the claim of our **"Would-be Competitors"** on this point is not correct.

"These are the Rock-of-Gibraltar-like facts against which mere 'word claims' by **Would-be Competitors** fade away like the mist of night before the rays of the morning sun."

We could enumerate a lot of things these **"Would-be Competitors"** claim, that are not in accordance with the facts or the records, "that fade away like the mists of night before the rays of the morning sun" of truth, but this is sufficient on this point for the present, we think, to convince all thoughtful readers that "word claims" do not have any weight in face of the facts.

These same **"Would-be Competitors"** claim their Separator is the Standard Cream Separator of the World, but they are not entitled to that "word claim," as the records show that the **United States Separator** beat them in the greatest contests ever held by any **National or International Exposition.**

In other advertisements they claim that "99½ per cent. of all expert creamery men, butter manufacturers, and real separator authorities living today use **DeLaval Separators** exclusively for they have learned by experience that the **DeLaval** is the only separator that will save all the cream all the time under all conditions."

Now every reader of intelligence knows that is another "word claim" and is not true, because a very large percentage of the leading breeders, separator authorities, creamerymen and dairymen, use and recommend the **United States Separator** because it proved in the great contest with the **DeLaval** and others, that it excelled everything in fifty (50) consecutive runs lasting over one month on ten different breeds of cows; also in every day use it has maintained its superiority.

Please read the following letter and see for yourselves if this looks as though the "99½ per cent. word claim" is correct.

Poughkeepsie, N. Y., May 27, 1908.

In 1899 we introduced farm separators in our cream gathering system. Although we are within six miles of the DeLaval Separator's main works where all of their Separators are made, our patrons, after thorough investigation, preferred and purchased the U. S. Separators. There are about three U. S. Separators to every one of the DeLaval Separators used. Since we have started we have steadily increased our output. We get good prices for our butter, and feel proud of the record.

LaGRANGE CREAMERY,
H. R. HOYT, *President.*

Just think of it, **Three United States Separators to** every **one** of the **DeLaval** right under the shadow of their factory. **Why?** Because the United States is superior to all others in every feature of separator practicability. It is **made stronger, runs easier, wears longer, skims closer.**

Send for Catalogue No. 69.

VERMONT FARM MACHINE CO.

BELLOWS FALLS, VT.

Warehouses in every dairy section of the United States and Canada.

WANTED--A RIDER AGENT IN EACH TOWN and district to ride and exhibit a 1909 Model "Ranger" bicycle furnished by us. Our agents everywhere are making money fast. *Write for full particulars and special offer at once.*

NO MONEY REQUIRED until you receive and approve of your bicycle. We ship to anyone, anywhere in the U. S. *without a cent deposit* in advance, *prepay freight*, and allow **TEN DAYS' FREE TRIAL** during which time you may ride the bicycle and put it to any test you wish. If you are then not perfectly satisfied or do not wish to keep the bicycle you may ship it back to us at our expense and *you will not be out one cent.*

FACTORY PRICES We furnish the highest grade bicycles it is possible to make at one small profit above actual factory cost. You save $10 to $25 middlemen's profits by buying direct of us and have the manufacturer's guarantee behind your bicycle. **DO NOT BUY** a bicycle or a pair of tires from *anyone* at *any price* until you receive our catalogues and learn our unheard of *factory prices* and *remarkable special offers* to **rider agents.**

YOU WILL BE ASTONISHED when you receive our beautiful catalogue and study our superb models at the *wonderfully low prices* we can make for 1909. We sell the highest grade bicycles for less money than any other factory. We are satisfied with $1.00 profit above factory cost. **BICYCLE DEALERS,** you can sell our bicycles under your own name plate at double our prices. Orders filled the day received.

SECOND HAND BICYCLES. We do not regularly handle second hand bicycles, but usually have a number on hand taken in trade by our Chicago retail stores. These we clear out promptly at prices ranging from $3 to $8 or $10. Descriptive bargain lists mailed free.

TIRES, COASTER-BRAKES, single wheels, imported roller chains and pedals, parts, repairs and equipment of all kinds at *half the usual retail prices.*

DO NOT WAIT, but write today and we will send you **free** by return mail our **large catalogue,** beautifully illustrated and containing a great fund of interesting matter and useful information; also a *wonderful proposition* on the first sample bicycle going to your town. It only costs a postal to get everything. **Write it now.**

MEAD CYCLE COMPANY Dept. L-83 CHICAGO, ILL.

Live Stock and Dairy

Why Milk Dealers Should Combine Their Routes

In practically every city of any size there are several individual milk routes. These routes are spread out more or less over the city, and the patrons of any one delivery system are always somewhat widely separated. This is practically true with every milk route in the city, and I have known as many as five milk wagons to have customers in one territory or block. In order to supply their customers in this block each milk wagon must go over the ground to deliver the milk. For example: Smith will buy milk from Jones, and Jones must go over the ground in order to deliver Smith's milk; a neighbor of Smith buys his milk from Scott, another milk dealer, and Scott must also go over the ground in order to deliver this neighbor's milk; another party in the block will buy milk from yet another dealer, and this one also must cover the territory; and so on, there frequently being as many as five or more different milk wagons having to cover the same territory.

Now, if all these different customers in the block could have their different orders supplied by one delivery wagon by going over the ground the once only, there would be a great saving of time, labor and expense to each one of the different milk dealers. If the routes were combined and centralized, instead of there being five or more individual milk wagons to supply the trade in any one block or district, there would be one wagon, and from this one every family using milk in the district would receive their supply. One wagon could supply all the milk trade in one district at a slightly increased expense and in a very little extra time in addition to that required to supply a fraction of the trade.

A Successful Combine Plant

It is not impossible to form such a combine and it has been done successfully in the city of Erie, Pennsylvania. The city has a population of perhaps eighty thousand, and was supplied with milk by individual milk wagons. A few of the different milkmen saw that there was an unnecessary covering of the ground many times, and at an expense of labor and time uncalled for if the routes were combined. For the purpose of the economical distribution of milk and cream, they formed themselves into a company and combined their several routes. An abandoned market house was rented and all milk delivered to this point for distribution. The customers of the different routes were retained, but entirely new routes mapped out, so planned that the different milkmen's customers in one district could be supplied from one wagon by going over the ground the once only.

Stock was issued to the farmers and dairymen, and mostly to those who had maintained milk routes or sold milk to the dealers, at the rate of three dollars a quart for the milk to be furnished. For example, if a dairyman were to furnish one hundred quarts daily, he would have to buy three hundred dollars in stock, or six shares, each share having a par value of fifty dollars. So for each share of stock purchased, one would be entitled to supply sixteen and two thirds quarts daily. If his output was two hundred quarts daily, it would cost him six hundred dollars for the stock.

The organization consisted of sixty members, and they formed themselves into the company on December 19, 1899, nearly ten years ago. There was considerable opposition at first, both on the part of the producers and the consumers. The consumers feared that the combine would prove itself a trust whose purpose would be to demand exorbitant prices for milk and cream; while the producers hesitated to invest in the stock before its success was assured. By a generous amount of perseverance on the part of the promoters, the company was organized and began business.

The Business Has Increased Rapidly

The business had to be done on credit at first, as the company owned nothing except its name, but to-day it has a rating of the very best with the business world. Its original quarters became too small and inadequate to handle the increased trade which came in from day to day, and as its success was assured beyond a doubt, a large three-story brick building was erected. The company bought a tract of land extending one hundred feet on two streets. The plant was built at a cost of twenty-three thousand dollars, and was equipped with thirteen thousand dollars worth of machinery and apparatus. Two fifty-five-horse-power boilers were installed to furnish power, and a twenty-five-ton ice machine to manufacture their own ice. It requires forty-six employees to take care of the work, including the office work and the all-round work of the company, and for this force the sum of twenty-five hundred dollars is paid monthly, or thirty thousand dollars a year. Only a few wagons were needed at first, but now it keeps twenty-six wagons busy, each one of which handles more milk than the average milk wagon. The routes are no longer than the average, but each wagon can supply more patrons than is generally attempted, because the customers of any one route are not widely separated.

There is Economy in the Distance Traveled

It is as it is with the rural free delivery system. A twenty-five-mile route through the country is about the average length, and it would be practically as cheap for one mail carrier to deliver mail to all the families as it would be to only a part of them. If two or more carriers delivered mail over the same route, one to landowners, for instance, and the other to tenants, the expense for the service would be doubled and no better service be the result. One carrier, by making a few more stops and having larger carrying facilities, could deliver all the mail at half the expense of two carriers delivering the same quantity. So it is with a milk route. It is possible for one wagon on a trip to include only about so much territory; but in making this trip he can make deliveries to all the patrons at nearly half the expense that two wagons could deliver the same quantity. Suppose the original milk route has a trade of two hundred quarts. Now, if the length of the route is not increased, but more families are included in the same distance, four hundred quarts could be delivered by the one wagon by making a few more stops and enlarging the carrying facilities, if necessary, while it would not be possible to enlarge a two-hundred-quart route to four hundred quarts if the distance to be traveled had to be doubled. Economical distribution of milk is as directly important to the producers and indirectly important to the consumers as the economical distribution of mail matter is to the government and to the citizens, who indirectly have to pay for the service. The farmers and dairymen of Erie County, especially those within a few miles of Erie, recognized this fact and put it on a successful working basis, which enables each of the twenty-six wagons to do nearly double the average amount of service and at less expense.

The Plant Has Ample Capacity

The average amount of milk received is about ten thousand quarts daily. Of course, in the flush of the season it exceeds this amount, being over eleven thousand quarts, while during the winter months it may fall as low as ninety-five hundred quarts. The association agrees to take all the milk from the stockholders, but the price paid per quart is regulated by the amount of milk delivered in reference to the stock owned. The season past, for full delivery it paid three and three fourths cents a quart—that is, for an amount equal to that allowed by the stock owned; for milk in excess of this amount, the price was three and one fourth cents a quart; and if the milk fell below the number of quarts required by the stock, the price was three and one half cents a quart. About ten thousand dollars a month is paid to the stockholders for milk. The cream that is used is bought direct from outside parties not belonging to the company, and the payments for this amount to about ten thousand dollars a year. At the present writing it is paid for at the rate of sixty cents a gallon for a twenty-per-cent cream, or one dollar and twenty cents a gallon for a forty-per-cent cream. It is all tested and paid for according to its test. While the law only calls for a three-per-cent milk in Pennsylvania, the by-laws of the company gives it the privilege to reject any that falls below a three-and-one-half-per-cent butter-fat test.

About eighty per cent of all milk received is bottled for delivery, first being separated, standardized and pasteurized. It is run through the separator, which removes any dirt and foreign matter, thus making it more sanitary and pure; then the cream is remixed with the skim milk, the aim being to have about a four-per-cent standard. As an extra precaution, in addition to the separation, in the endeavor to supply a strictly pure and sanitary milk, it is pasteurized and bottled. These precautions give the customers a pure and sanitary milk, and the bottling insures to each one an average and cleaner quality than is possible

Live Stock and Dairy

when milk is drawn from a can or poured from a pail.

For a year or two after combining the company handled only milk and cream, but now it includes practically all dairy products. It has a large wholesale ice-cream trade in the city and does a big business in this line. While it is not their object to make any butter, they have installed a creamery in their plant, which is in charge of an experienced and able butter maker. Any excess of cream not needed for the ice-cream trade or on the routes is made into butter, which finds a ready market in the city, especially to their regular milk customers. The milk wagons carry milk, cream, skim milk, smear case, buttermilk, etc. Any excess of skim milk is made into a skim-milk curd and shipped to outside points, where it is manufactured into combs, brush handles and various other articles made out of this curd. There is no waste in any direction, and the company's preparation to take care of to advantage whatever excess of milk and cream is supplied during the flush of the season, makes it possible to maintain a larger trade than it otherwise could, and to market the products to better advantage than could be done by individual dairymen. The outlet and utilization of any surplus milk and cream is a great advantage and strong point in favor of the combine.

The Individual Against the Combine

Individual milk routes could not go to the expense of making a market that is secured by reason of the combine. In union there is strength, and the maxim is as true in reference to milk routes as in anything. The combine can do profitably what each one individually could not afford to do. As individual dairymen they could not afford to separate, standardize, pasteurize and bottle the milk, nor could they be prepared to handle ice cream, in which there is a great profit, make the excess of cream into butter, the left-over skim milk into a curd or buttermilk, and a dozen and one other things that are accomplished by the union. The increased profit to each stockholder for his milk is due not to an increase of price for the milk nor to a lower cost of production, but because the expense of delivering and marketing is lessened. The dairymen simply bring their milk to the plant, and that is all they have to attend to.

The stockholders meet once a month, but the business is practically all done by its president and general manager, a man of practical experience, both in the production of milk and its delivery. The board of nine directors is elected annually by the stockholders, each share owned giving the owner one vote for each of the nine members or nine votes for one member.

We believe there ought to be a greater number of these combines, not only for the economical distribution of milk and cream, but farmer combines for the economical distribution and marketing of all farm produce.

LYNFORD J. HAYNES.

The Brood Mare in Spring

NOTHING is of more importance in connection with the breeding of horses than the management of brood mares of all kinds, and it is in the spring of the year when the chief attention of the stud master is called for. The mares may be expected to foal throughout all the weeks of April and May, and the smallest neglect of care and forethought then may mean very considerable loss.

Exercise is a serious point in the management of mares, as they must have it. If they would only walk about their paddocks quietly, all would be well, but as a rule they will gallop oftener than the groom likes, and perhaps it does not do them much, if any, harm, unless they slip and fall or turn corners too quickly. It often astonishes one to see them race about the fields when quite heavy, but they are much more likely to do so when kept together in numbers.

The mares should be housed at night, especially in inclement weather, but hot stables must certainly be avoided. Roomy box stalls affording plenty of air must be the correct accommodation. Bright straw for bedding is preferable for thick-coated brood mares, and besides, clean straw is about the most wholesome food they can eat. Hay not heated at all or in the least musty is a desirable fodder. No brood mare should be too fat, but they should be in good case. They must have some corn, and whole oats, if they can grind them, are better than crushed. Mares are very sensitive, and many are delicate feeders. They should be humored in the matter of change. It is a good thing to give them a feed of carrots, kohlrabi, swedes or mangels alternately, carrots being the most favored and containing the greatest amount of nutriment. Bran mashes given twice a week will be sufficient, but the ordinary system is to give steamed foods daily, oats and bran mixed. Whether this does not fatten too much without giving a hardness to the bodily fitness may be open to doubt. There is an objection to a breeding animal of any kind being fat, and the medium-conditioned mare, not too fat nor too thin, is always the best breeder.

Mares vary in the period of gestation, the period being from eleven to fourteen months. However, foaling can be foretold by the sinking of the flanks, dropping of the belly, and the enlarged udder. Some time before foaling the mare should be put in a large box stall, well bedded with clean straw, and be closely watched until the foal arrives. Foaling is usually a prompt act, and if the mare is in good condition she will perhaps need no help, but it is always best to be on hand in such cases, so that assistance may be given if necessary.

The mare attends to the foal by instinct, allowing it to suck and licking it dry. In case she should refuse to own it, some of the mother's milk rubbed on the colt's nose, and allowing the mare to smell it, will cause her to own it at once.

The mare must be kept quiet and given nourishing food and plenty of good, pure water. To supply the demands of the colt, she must be made to produce an abundance of milk, and there is nothing better for this purpose than crushed oats, wheat middlings and carrots.

For the first three days after foaling the mare and colt should be kept in a large box stall, then let run in a small pasture or paddock that has shelter and water, but they must be brought in at night for a period of at least three weeks. The colt should be kept away from other animals and never be exposed to cold rains or excessive heat or tormented by flies. It should be given plenty of exercise and when four weeks old taught to eat bran and crushed oats.

The mare should not be put to work too soon after foaling or allowed to eat too much hay, as it will destroy her shape. And the colt should not be allowed to suckle when the mare is overheated from work or driving.

W. H. U.

Pasturing Too Early in Spring

A VERY common mistake made by many farmers is to allow live stock to feed off the pasture too early in the spring. The roots of the young grass are at that time not yet firmly established in the ground from the effects of the winter. Frequently the plants are pulled out, roots and all, by the cattle feeding on them. The vacant space created by the destruction of the plants is seldom replaced by desirable ones.

The grasses in the early spring are highly charged with moisture and lack the nutritive quality, such as they possess later in the season. Necessarily, the stock, in order to maintain their ration, will have to feed over a large area. In doing so the stock not only constantly keeps the grass cropped close to the ground, but exerts, by the tramping down of the sod, an undesirable physical effect on the soil.

The compaction of the soil causes an increased capillarity and a corresponding loss of moisture. It is noticeable that where pasture fields are low and have been hoof trodden in the early spring, there will be a poor stand of grass, or perhaps such a spot will be barren. In order that grasses may be induced to grow best, we must conserve all the moisture possible in the early spring, so that later in the season, when rains are less frequent, the required moisture for the growing grass can be fed from the lower depths of the soil.

On account of the high price of feed this year many farmers will turn their cattle out onto their meadows, as well as their pastures, as soon as possible, and will reduce their yield from half a ton to a ton an acre. I do not know of any greater piece of extravagance than turning cattle out onto the meadow as soon as they can get a full bite or before. There is very little nutriment in this lush, watery grass, and it has a strong tendency to promote scouring. When cattle are turned onto grass, even for an hour or two in the day, before they can get a full bite they are indisposed to eat hay or fodder, and hence are very likely to fall away in flesh instead of gaining, as cattle should.

WM. H. UNDERWOOD.

TRADE IN YOUR INFERIOR SEPARATORS

15,000 American users of poor or worn-out separators traded them in last year on account of new

DE LAVAL CREAM SEPARATORS

and there are doubtless many more owners of such machines who will be glad to know that while such old machines have no actual value the DE LAVAL Company continues to make liberal "trade" allowances for them because of the opportunity such exchanges afford for the most practical illustration possible of the difference between good and poor separators and putting a stop to the sale of others like them in the same neighborhood. Nobody is injured through the re-sale of these old machines as they are simply broken-up and "scrapped" for their old metal value.

Then there are many thousands of DE LAVAL users who should know that they may exchange their out-of-date machines of from 10 to 25 years ago for the much improved, closer skimming, easier running and larger capacity machines of today.

Write in a description of your old machine—name, size and serial number—or see your DE LAVAL agent.

THE DE LAVAL SEPARATOR CO.

42 E. MADISON STREET CHICAGO
1213 & 1215 FILBERT STREET PHILADELPHIA
DRUMM & SACRAMENTO STREETS SAN FRANCISCO

General Offices: 165-167 BROADWAY NEW YORK

173-177 WILLIAM STREET MONTREAL
14 & 16 PRINCESS STREET WINNIPEG
107 FIRST STREET PORTLAND, OREG.

PRICE Direct From Our Factory Saves You 40% to 50% On Vehicles and Harness

BOOK FREE Send Your Name on a Postal. Shows 75 Styles—102 Pages.

Hand Forged Wrought Iron Gears

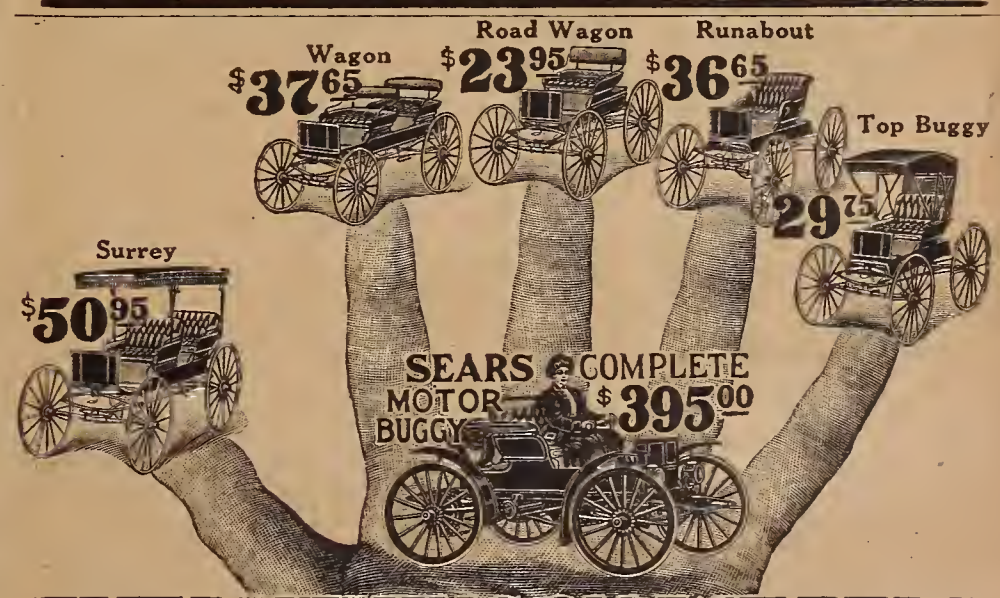
Friend—Let us send you our Big 1909 Columbus Vehicle Book Free and quote you prices that will *save you 40 to 50 per cent cash.* Pick out just what you want and use it a month.

Every Columbus Buggy is shipped subject to this test—*sold straight from factory to you at manufacturers' prices.* If not found as represented—and satisfactory in every way—buggy can be returned—all freight charges will be borne by us—and all money paid cheerfully refunded. Long-time guarantee given on every vehicle. COLUMBUS—on a buggy—stands for quality the world over—highest quality possible to obtain in a vehicle—and being now

Sold Direct On Full Month Trial

Saves you the big profits of dealers or agents. Write us a postal or letter so we can prove the savings that we can make you on high grade Columbus Vehicles and Harness. We will also send our Big Book Free. It will pay you to write

THE COLUMBUS CARRIAGE & HARNESS CO.
Station C8 Columbus, Ohio



EVERYTHING ON WHEELS RIGHT IN YOUR HAND!

TAKE YOUR PEN IN HAND

and write for any or all of these interesting free books:

Our latest Vehicle Catalogue, describing and illustrating more than 80 styles of the best buggies and vehicles ever offered at prices $20.00 to $35.00 lower than their equal can be purchased elsewhere.

Our Catalogue of Farm Wagons, Trucks and Business Wagons, illustrating and describing fifty styles in the best, most practical, most durable wagons, greatest value possible to obtain anywhere.

Our Sears Motor Buggy, complete and ready to run, for $395.00—all you need is gasoline. The best, simplest and most practical motor buggy. For $395.00 we ship the Sears Motor Buggy complete with top, lamps, fenders, roller bearing axles and rubber tires, all ready to run.

Save Time and Freight Charges

as we ship buggies direct to you from warehouses in Kansas City, Mo.; Wichita, Kan.; St. Paul, Minn.; Fargo, N. D.; St. Louis, Mo.; Omaha, Neb.; Milwaukee, Wis.; Grand Rapids, Mich.; Columbus, Ohio; Pittsburg, Penn.; Buffalo, N. Y.; Albany, N. Y., and Evansville, Ind.

Our new Vehicle Catalogue explains all about our latest warehouse proposition.

Ask for Catalogue No. 476C. Tell us whether you are interested in Buggies, Farm Wagons, Pony Vehicles or Motor Buggies.

SEARS, ROEBUCK AND CO. CHICAGO

ACT QUICK—Prices Now Slashed on
EXCELL STEEL AND IRON ROOFING OR SIDING
Get your name in quick so we can give you all the benefit of **cut prices** on **iron and steel** roofing and siding. Can't last long. Get **book** and **free samples.**
SEND NO MONEY
so you take no risk. You see what you buy before paying. Pay nothing unless fully satisfied. Lowest prices ever offered on roofing and roofing supplies sold straight to you from Factory at real Factory Prices. Don't buy till you get cut prices and **FREE Roofers' Guide**—Write for Book today.
The United Factories Co., Dept. R49, Cleveland, O.

Boys! Boys!
Here is your chance to get a dandy guaranteed watch or air rifle, free of all cost, for just about half a day's hustling for FARM AND FIRESIDE. Snap up this opportunity! Write to-day to
FARM AND FIRESIDE
Springfield, Ohio

SAFETY RAZORS GIVEN AWAY
To quickly introduce the celebrated Ideal Shaving and Complexion Soap which beautifies, removes pimples, blotches and all facial eruptions, leaving skin soft and clear, and to prove what we claim is true, we will send a box of soap, together with the latest new Improved Safety Razor outfit in a fine handsome case, all complete for shaving. **ABSOLUTELY GIVEN AWAY** to any one answering this advertisement at once and enclosing **10 cents**, silver or stamps, to help pay boxing, packing, mailing, etc. Address,
THE AM. SOAP WORKS, Dept. F.F., 95 Chambers St., N. Y. City

A WAY OUT OF YOUR ROOF TROUBLES
American Ingot Iron Roofing Guaranteed For 30 Years
Without Painting
The Only Guaranteed Metal Roofing ever put on the market. Samples free. Write for a free book showing remarkable tests.
THE AMERICAN IRON ROOFING CO., Dept. K, ELYRIA, OHIO

STEWART IRON FENCE
Let us improve the appearance of your home. Iron Fence is cheaper than wood and permanent. No repairing with Stewart's Iron Fence. Write for booklet showing hundreds of designs at all prices. Also iron reservoir vases, settees, fountains, tree guards, etc. Agents wanted—Make money in spare time.
THE STEWART IRON WORKS CO.
1721 Covington St., CINCINNATI, O.
Largest Makers of Iron Fence in the World.

PATENTS SECURED OR FEE RETURNED.
Free report as to patentability. Illustrated Guide Book, and List of Inventions Wanted, sent free.
EVANS WILKENS & CO., WASHINGTON, D. C.

PATENTS that PROTECT
Our 3 books for inventors mailed on receipt of 6 cts. stamps
R. S. & A. B. LACEY, Rooms 28-58 Pacific Bldg.
Established 1869. Washington, D. C.

PATENTS Watson E. Coleman, Washington, D.C. Books free. Highest references. Best results.

Live Stock and Dairy

To Cure Scours in Young Pigs

BEFORE there can be any disease there must be a cause. The scours in young pigs is brought about from various causes. In many cases it is because the little pigs get wet and take cold or lie in wet beds. Sometimes the sow herself taking a cold will transmit it to the suckling pigs and frequently cause the disease. The feeding of the sow has something to do with it, oftentimes. Slops from the kitchen very often contain spoiled canned fruit which is almost sure to bring on a case of scours. The disorder is also caused by overfeeding the sow and causing too great a flow of milk, which, not being taken care of by the little pigs, causes congestion, which brings on the malady in the pigs. It must be remembered that a case of scours in the sow will result in the same with the pigs. The regular feeding of usual feeds without making any violent changes is the best plan for avoiding the scours from feeding.

If any of my young pigs happen to become affected with the scours, I take a teaspoonful of copperas, dissolve it in hot water, and give in a gallon of skim milk to each sow. The remedy generally gives the desired results. Where skim milk cannot be had, the copperas may be given in hot water with the same results.

Another remedy which will prove effective is to feed scorched flour or shorts to the pigs in sweet milk if they are old enough to eat it; if the pigs are too young to eat, the same can be given to the sow.

WM. H. UNDERWOOD.

Succulent Crops for Winter Feeding

MORE and more are progressive stockmen including in their crop-growing operations a variety of forage that will give succulence to the winter ration. This element has several important properties. By producing and maintaining the laxative effect of the pastures a good substitute is provided for it, making it possible for animals to go into their winter quarters with practically no break from "grass to grass." Furthermore, it has a decided value in promoting digestibility and palatability. For this reason the expense of buying high-priced concentrates to balance the ration may be very materially reduced by having on hand some form of succulence.

While the value of succulent feeds is generally recognized, the best means of providing them is still an open question. localities differ to such an extent as regards soil and climate that what would give satisfaction in one would meet with disfavor in another. With the great majority, however, corn silage is perhaps the most popular. It yields a greater bulk to the acre than any other widely grown forage plant, and the cost of securing it in the succulent state is comparatively small. The initial expense of constructing a stave silo need not exceed, on the average, one dollar and fifty cents to each ton of capacity, while the cost of the silage may vary from one to three dollars a ton, which, of course, are extreme figures, the actual cost in the majority of cases being about midway between these two. An erroneous opinion is quite common among the farmers of some sections that it is more profitable, when growing corn for silage, to plant those varieties that will produce the largest yields, even though the stalks be coarse and immature. As a result, there is a large proportion of the silage of very poor quality that does not give satisfaction for feeding purposes. It is much better to grow only varieties that will mature, and though there be but a gross yield of from twelve to fifteen tons to the acre, this will include about three tons of well-filled ears that will greatly enhance the feeding value of the silage.

Roots as a Succulent Feed

Roots are quite equal to silage as a succulent feed, and although not so extensively grown in recent years, presumably on account of the hand labor involved, they are even preferable to the latter for some classes of stock. Recent investigations seem to indicate that because of their succulent properties, roots may be classed with the concentrates. It is now known that the dry matter of concentrates is digested much more completely than that of roughage, while the latter requires the expenditure of much more energy in its mastication and digestion, so that the net available energy resulting from the consumption of the concentrates is much greater. In this respect roots are very similar; they are completely and easily digested, so that the net available energy secured from their consumption is large. Extensive Danish experiments show that a pound of dry matter in roots is about equal to a pound of cereal grains, or to three fourths of a pound of cotton-seed meal, when fed to milk cows.

Mangels and turnips are most in favor, although carrots are sometimes grown in a small way, as they are particularly relished by horses. Swedish turnips have, however, been found to give equally good results with considerably less labor in caring for the crop.

There has always been a wide difference of opinion among farmers as to the relative value of mangels and turnips. Analysis, however, shows but little difference. The water content of each is about ninety per cent, while the dry-matter constituents are practically the same. Each, though, possesses several marked characteristics that render it an important adjunct to the winter's feed supply. Mangels are not in the best condition for feeding until they have apparently undergone a ripening process after being stored. On the other hand, turnips are at their best when first stored, and should be fed during the late fall and early winter. I have noticed that when turnips have been left in the cellar until spring they were frequently found growing and rotting, while the mangels continued sound and in good condition for feeding well on to mid-summer, and sometimes later. The maximum value usually claimed for these roots for feeding purposes is about six cents a bushel, as against the average cost of growing of from three to five cents.

Artichokes in some sections are very popular as a succulent feed for hogs. They are suitable, however, only for somewhat light, sandy soils. The system of growing is similar to that of potatoes. Plant in drills or rows twenty-one to twenty-four inches apart and from twelve to eighteen inches apart in the rows. The white artichoke is the variety best adapted for this purpose, and about twenty-five bushels of seed are required to the acre. I have been told by those who have made the test that this area will yield from one thousand to twelve hundred bushels. This crop is not injured by frost and will reseed itself, when desired, if some of the artichokes are left in the ground.

Other succulent crops that I have used to good advantage are pumpkin, cabbage and second-grade potatoes. Where there is a good market for the last two it would probably not pay to utilize them in this way. Pumpkins, however, grown on a rich sandy soil yield a large amount of cheap succulence and are much relished by most all kinds of farm stock.

J. HUGH MCKENNEY.

Fertilizer Value of Farm Animals and Their Products

ONE of the strongest arguments in favor of animal husbandry on the farm is the saving of fertility of the soil from the use of the manurial by-product.

This is such a good argument that we are liable to conclude that there is little or no fertilizer lost from the sale of animals and their products, yet the bodies of animals are rich in fertilizer value, as the following table, taken from Warrington's "Chemistry of the Farm," will show.

The ash constituents and nitrogen in one thousand pounds of various animals and their products is as follows:

	Nitrogen	Phos. acid	Potash	Lime
Fat ox	23.18	16.52	1.84	19.20
Fat sheep ...	19.60	11.29	1.59	12.80
Fat pig	17.57	6.92	1.48	6.67
Unwashed wool	73.00	1.00	40.00	1.00
Milk	6.40	2.00	1.70	1.60

If we calculate the value of the fertilizer that is sold from the farm with animal products, at fifteen cents a pound for nitrogen, five cents a pound for potash and phosphoric acid, we find that every ton of fat cattle which leaves the farm carries with it $7.92 worth of fertilizer. Every ton of live hogs carries $6.08 worth of fertilizer. Every ton of wool sold carries a value of twenty-six dollars' worth of fertilizer. These look to be pretty large figures, but as we find that from eighty to ninety per cent of the fertilizer value of the food which was used in growing these products is saved to the farm in the manure, the figures given only represent about one fifth of the fertilizer value that would have left the farm if the food had been sold instead of feeding it to animals.

A. J. LEGG.

Alfalfa is rapidly becoming one of the most valuable varieties of the clover family. The name originated in Arabia, and means "The best fodder." Further particulars respecting it are given in Farmers' Bulletin No. 339, recently issued by direction of the Secretary of Agriculture. *

HOW I.H.C. CREAM HARVESTERS HELP MAKE BETTER CALVES

THERE are indirect as well as direct benefits in using I. H. C. Cream Harvesters.

Everybody knows that the Cream Harvester will save labor, save time and get more butter fat out of the milk than you can get by hand skimming. These are direct benefits. They are the most persuasive reasons why every dairyman should have a cream separator.

But an indirect benefit, hardly less important, is the better calves you can raise.

When you skim by hand the calves get the cold, tasteless, sour skim milk that has but little life in it.

If you haul cold milk to the creamery and take back your portion of the skim milk to feed your calves, it is even worse. In addition to its being stale and lifeless you take grave chances of introducing tuberculosis into your herd.

If you have an I. H. C. Cream Harvester, you separate the milk while it is warm and fresh. The calves, and pigs and chickens get the skim milk before it is stale, cold and sour. A little oil meal added to this appetizing skim milk makes it an ideal food, practically as good as the whole milk.

I. H. C. Cream Harvesters are very close skimmers. The saving in cream alone by using one of these machines goes far each season toward paying for the cost of the machine if you keep a number of cows.

There are two styles of I. H. C. Cream Harvesters, the Dairymaid and the Bluebell.

Dairymaid Cream Harvester

This machine is chain driven, and it is made in four sizes—350, 450, 650 and 850 pounds capacity per hour. Because of the simple and direct application of power from the crank to the bowl, it is exceptionally easy running and is very easily kept in order. The strongest points about this machine are its close skimming, convenient operation and simplicity, which makes it exceptionally durable. The supply can and crank are waist high, an ideal location to make the work easy. When you get a Dairymaid you can be sure you are going to get all the butter fat in the easiest possible way.

Bluebell Cream Harvester

The Bluebell is a gear drive machine. It is exceptionally well constructed. The gears are accurately cut to the thousandth part of an inch. They are thoroughly protected from dust and milk, and they are provided with A1 oiling facilities. That is why Bluebell owners have less trouble than any other separator owners. The machine is simple. It is long-lived, and it is very easy running. The Bluebell bowl skims down to the thousandth part. Its interior separating device is patented, and it is the most efficient device of this kind manufactured. The supply can and crank shaft are at the proper height to make the operation easy.

Get either of these separators and you will get more butter fat out of your milk than you are now getting. You will get more nutritious and appetizing feed for your calves. You will save labor, save time. Investigate fully by calling on the International local agent and examine the I. H. C. Cream Harvester he handles, or, if you prefer, write the home office for full information.

International Harvester Company of America
(Incorporated)
Chicago, - - U. S. A.

Live Stock and Dairy

Hints on Breaking Colts

I AM not a professional horse trainer, horse breeder or veterinary surgeon, although I have had a little of all three of these callings. I am, or have been until a few years ago, a farmer, plain and simple, and during my farm life have made it a rule to raise all my stock of domestic animals myself. In the line of equines I looked to the arrival of a little colt every year or two with special interest, and this fact enabled me not only to replenish my own team forces, but to have a horse or two to sell now and then.

Being somewhat naturally inclined in this direction, I always enjoyed breaking my own horses. As I said before, I am no professional, I had no education in this line, but by observation and the application of common-sense methods I succeeded in a marked degree.

Before entering upon any detailed description of the means we may employ to teach colts the various tasks required of them, I will give a few general hints that may help to explain matters later on.

Untrained animals, whether of the horse, cattle, dog, cat or any other kind, do not understand human speech in any language. English, French, German, etc., all are equally unrecognizable to them, and the only way to make them understand certain expressions is to accompany them with outward physical impressions or motions that convey the same meaning; for instance, if we wish to make an unbroken colt step from one side of the stall to the other, we may use the term "step over" and at the same time lay our hand on its hip on the side from where it is to move, and increase the weight of the hand to a push, until the colt steps over. Continuous treatment in this way will in time teach it to understand the meaning of "step over," and obey the word alone.

Be Patient and Exact

To have stock, and especially horses, be exact in obeying, we must be perseveringly exact in giving our commands. It is sheer nonsense for the driver to continuously cluck at his team to induce them to a faster gait or even when a faster gait is not desired. They get accustomed to this senseless clucking, the same as to the rumbling of the wagon, and pay no attention to either.

Another foolish habit of many drivers is the use of the combination "whoa-back" in stopping the team, the latter being added if the team does not readily stop at the word "whoa." The word "back" being also used when actual backing is required, how can a team know which meaning the driver has in mind when he screams "back?"

Man's physical and mental superiority over the animal is the keynote of his mastership over all creation; by making proper use of these qualifications the animal is subdued. It is an easy matter to overrule the animal's mental power, but not always so easy to overpower his physical strength. In such cases we have to resort to artificial means; for instance, the horse that pulls on the halter has not given up to man's superior strength. We therefore make his tie strong enough to resist all his future efforts to break loose. The rope tied to the solid manger is in his mind man's greater strength.

Begin Training While Young

It is always advisable to begin the training of our domestic animals in their earliest days; a colt one day old is none too young. We must bear in mind, however, that their general make-up, both physical and mental, should never be overtaxed. Many colts grow prematurely old by being made to do heavy work before they are of proper age.

When breaking colts, it is of the utmost importance that the trainer should have perfect control over his temper; the words "get mad" should have no place in his vocabulary. One little display of ill temper may spoil the labor of weeks and months, and possibly cause irreparable damage in the future development of the animal.

Always speak to your stock in a plain, natural tone; be distinct in expressions, but never yell or scream at your animals, as it only scares them and makes them nervous. All words of command should be given as concise and uniform as the language can express them; long lingos are not only useless, but greatly confuse the animal's mind.

Don't hurry the colt's education; it must be gradual, like the child's schooling. Teach him one thing at a time, and when that is well mastered, add something else.

No two animals are just alike in disposition; one may be willing to suffer any amount of abuse, while the other may resent harsh treatment of any kind. We must manage them according to their individual peculiarities.

When breaking colts or driving old horses, always have a whip ready to use, unless the nature of the work does not permit it; it may prevent serious accident, but never, never strike a colt, and it is very seldom, if ever, that an old horse needs severe punishment.

Animals have no reasoning faculties; we have to employ mechanical means to convey our wishes and intentions to their mind. A horse will step on a buggy thill and break it unhesitatingly, not knowing or realizing that it does anything wrong or harmful. A little forethought and proper management will prevent it.

Never punish a horse for displaying his natural traits; he does not wilfully displease you. When he is afraid or dislikes to be caught, and runs in the opposite direction, and offered kindness, in the shape of an apple or a handful of oats, after being caught, may improve his bad notion, while ill treatment will only make a bad matter worse.

As a rule, balky horses are made, not bred. Our animal's natural inclination in this direction can easily be developed by the mismanagement of the driver, and in many cases it is the actual cause of the trouble. G. C. GREINER.

Horse Notes

A horse suffering from colic should be kept quiet.

A horse is more liable to scare with than without blinders.

The age for working a colt varies with size, strength and maturity.

It is easier to keep a team in a good condition than to make it so.

In training a colt, do not make any of its lessons too long and wearisome.

As a rule, a horse broad in the forehead will be intelligent and kind.

A good growth the first year of the life of a colt costs less than at any other age.

One objection to working horses in the rain is the increased liability of sore shoulders.

Scant rations of good food are much better than lavish feeding of inferior provender.

No horse is of much account if he has not a level head and a good, vigorous constitution.

It is better to feed judiciously than plentifully; many horses are fed into a poor condition.

The feet of a horse must be kept clean and in a healthy condition if he is to do the best service. W. H. U.

Sterilize Your Milk Pails Pans and Cans, and Bottles

If you only saw them through a microscope, dairy and creamery utensils washed in the ordinary way wouldn't look so comfortably clean. For ordinary washing passes over whole hidden nests of little wigglers, the kind science books call "germs of putrefaction, fermentation and decay"—and they're every bit as bad as *that* sounds. Soapy dish water at best only *redistributes* these germs.

GOLD DUST is an antiseptic washing powder that not only removes the visible dirt and grease, but goes deep after every minute impurity—every trace of germ-life—*sterilizes* your milk pails, pans and bottles—leaves them clean, pure, wholesome, *safe*.

And GOLD DUST is the greatest labor-saver, help and comfort about a dairy farm, you ever knew.

Don't use Soap, Borax, Naphtha, Soda, Ammonia or Kerosene. The GOLD DUST Twins need no outside help.

"Let the GOLD DUST Twins do your work"

Made by THE N. K. FAIRBANK COMPANY
Makers of FAIRY SOAP, the oval cake.

Lowest Factory Price —Freight Prepaid
Freight Prepaid on 100 lbs. or more
35-lb. Roll—108 Sq. Ft.—1-Ply $1.35
45-lb. Roll—108 Sq. Ft.—2-Ply 1.85
55-lb. Roll—108 Sq. Ft.—3-Ply 2.25
Order today, or write for Samples and Booklet

Freight Prepaid on Breese Bros. Roofing

This is the most liberal special price proposition ever made on Guaranteed first quality rubber roofing. Look at the prices quoted on our three weights of old reliable Breese Bros. Rubber Roofing and remember that these remarkably low prices include freight costs.

You cannot buy anything but cheap, low grade roofing through a dealer, at anything like this price.

Breese Bros. Rubber Roofing is made in our own factory, by a special process of long-fibre wool felt saturated in asphalt, heavily coated on both sides with flexible waterproof compound. Absolutely guaranteed to be waterproof, fire-resisting and durable. Order now and get the advantage of this unusual offer. We pay the freight to all points east of the western boundry line of Minnesota, Iowa, and Missouri and north of the south line of Tennessee.

Write To Us for Three Free Samples to Test—and Booklet

Get these samples of 1-ply, 2-ply and 3-ply roofing. Put them to every test you can think of and prove to your own satisfaction that Breese Bros. Rubber Roofing is positively the best roofing ever made. Breese Bros. Roofing will cost you at this remarkable low price offer, one quarter as much as shingles and will last twice as long.

You run no risk by ordering now direct from this advertisement. We positively guarantee satisfaction. If Breese Bros. Rubber Roofing does not prove to be all that we claim for it, send it back and we will return your money.

We Give the Longest Guarantee

and our guarantee is absolute. We are ready to make good on every claim. We pay the freight to all points east of the western boundry line of Minnesota, Iowa and Missouri and north of the south line of Tennessee.

Order at once—now—today and get the benefit of this remarkable offer. We may not be able to make such a liberal offer again. Or write today for Free, samples and booklet. Delay may cost you money

The Breese Bros. Co.
Roofing Dept. 24. Cincinnati, O.

Free Cement and Special Roofing Nails inclosed in each roll. Hammer lays it. Use on ALL Buildings

A $5000. DAN PATCH STALLION FREE

An absolutely Free Hair Counting Contest Without Money or Purchasing Consideration and Open to any Farmer, Stockman or Poultry Breeder

Can you count the number of hairs drawn in a picture of "Forest Patch," sired by Dan Patch, dam by Monaco by Belmont. Write me for one of the Dan Patch Pictures and I will also mail you a photo engraving of "Forest Patch," the Fine Registered Stallion to be given away and ALSO Drawing **Showing Hairs To Be Counted** and also stating easy conditions. Every stock owner will want to count the hairs on this Splendid $5,000 Dan Patch Stallion because it means a small fortune free for some one. I paid $60,000 for Dan Patch and have been offered $180,000. I would have lost money if I had sold Dan for One Million Dollars.

You may secure this $5,000 Dan Patch Stallion Absolutely Free. "Forest Patch" might make you a fortune of $25,000 to $50,000 as a great stock horse for any community because he will make a 1200-lb. stallion with great style and beautiful conformation.

M. W. SAVAGE, Minneapolis, Minn.

THIS NEW PICTURE OF DAN PATCH 1:55

IN 6 BRILLIANT COLORS

MAILED FREE

This new picture of Dan Patch 1:55, is the Finest I have ever gotten out for framing. It is 21 inches by 28 inches, is printed in six brilliant colors and is free of advertising. It gives his age and a list of all the fast miles paced by Dan. Being made from a "Speed Photograph," it shows Dan as lifelike as if you stood on the track and saw him give a marvelous and thrilling speed exhibition. You ought to have a fine picture of the King of all Harness Horse Creation and the Fastest Harness Horse the world has ever seen. I will mail you one of these Large, Beautiful, Colored Pictures of Dan Patch 1:55 free with Postage Prepaid and full particulars concerning my plan of Giving Away a $5,000 Dan Patch Stallion if you will simply write me. Give me the Live Stock information by mailing Free Coupon or by writing me a Letter or Postal Card today.

MAIL THIS FREE COUPON

M. W. Savage
Owner of Dan Patch and International Stock Food Co.
Minneapolis, Minn.

Please mail me, postage paid, one of the Beautiful Six-Color Pictures of Dan Patch 1:55, herein described and also full particulars of your plan of giving away a $5,000.00 Dan Patch Stallion I have filled out the coupon with number of live stock I own.

I own.....Horses..... .....Cattle
.....Sheep .....Hogs
Name.....
Postoffice.....State.....R. F. D.

EVERY CONTESTANT ALSO RECEIVES BEAUTIFUL DAN PATCH SOUVENIR.

Address M. W. SAVAGE, Owner,
Minneapolis, Minnesota
Also sole owner of International Stock Food Co.; International Stock Food Farm.
Mail Me Free Coupon or Write Letter or Postal To-Day

The GOLDEN ROD
CREAM SEPARATOR

Here is a fact that means dollars and cents to you:—

Every sale we make is made on the guarantee that the Goldenrod will prove to be a better separator.

And all these sales stick, as we have said—none of the separators comes back.

In other words, we meet and defeat competition.

We prove that the Goldenrod gets all the cream—which means more cream than any other separator gets.

We prove that it works easier and better—because of its frictionless chain drive. If we didn't prove these things, the broadness of our claims—the sweeping character of our guarantee—would prove our undoing.

If we didn't make good on all our claims, our business would be going backward—instead of which our sales are increasing by leaps and bounds.

Give us a fair, square chance to prove that you ought to own the Goldenrod in preference to any other separator, and we'll prove it.

Write first for the booklet, in which thousands of enthusiastic owners tell what the Goldenrod has done for them, and we will tell you about our special free trial proposition—an arrangement whereby you can prove our claims on your own dairy floor.

Competent Agents Wanted. Our Omaha warehouse promptly supply Western trade.

MERIT SEPARATOR COMPANY
Oxford, Pa. Dept. B Omaha, Nebr.

MINERAL HEAVE REMEDY

NEGLECT Will Ruin Your Horse

Send today for only PERMANENT CURE

SAFE CERTAIN

CURES HEAVES

$3 PACKAGE will cure any case or money refunded.

$1 PACKAGE cures ordinary cases. Postpaid on receipt of price. Agents Wanted

Write for descriptive booklet

MINERAL HEAVE REMEDY CO., 425 Fourth Ave., Pittsburg

Do You Own Five Sheep?

If so, it will pay you to have the surest, truest, most humane shearing machine made

The New Stewart Shearing Machine

With it you will get more wool with longer fibre and the resulting higher price. It does away with the tiresome work of hand shears and the injuries they cause. This machine is equipped with the famous Stewart Shear which does perfect work in any wool that grows. We guarantee it to give absolute satisfaction or we will refund the full purchase price—$9.75. This price includes four sets of knives. If your dealer cannot supply you send us $2 and the Clipper will be sent C. O. D. for the balance. Write today for free descriptive circular and free book "How to Shear Sheep."

Price $9.75 with 4 sets of knives.

Chicago Flexible Shaft Co.
134 LaSalle Ave.
Chicago, Ill.

Seldom See

a big knee like this, but your horse may have a bunch or bruise on his Ankle, Hock, Stifle, Knee or Throat.

ABSORBINE

will clean them off without laying the horse up. No blister, no hair gone. $2.00 per bottle, deliv'd. Book 8 D free. ABSORBINE, JR., for mankind, $1. Removes Painful Swellings, Enlarged Glands, Goitre, Wens, Bruises, Varicose Veins, Varicosities, Old Sores. Allays Pain. Book free.

W. F. YOUNG, P. D. F., 23 Temple St., Springfield, Mass.

THIS O.I.C. SOW WEIGHED 932 LBS. AT 23 MONTHS OLD

IONIA GIRL

I have started more breeders on the road to success than any man living. I have the largest and finest herd in the U. S. Every one an early developer, ready for the market at six months old. I want to place one hog in each community to advertise my herd. Write for my plan. "How to Make Money from Hogs."

C. S. BENJAMIN, Masonic Bldg., Portland, Mich.

SILOS

that make and keep *real* ensilage; that have the utmost strength, convenience, and durability; that are used by the United States Government. Send for free catalogue.

HARDER MFG. COMPANY, Box 31, Cobleskill, N. Y.

1000 Gallon Cedar Tank, 25 ft. Steel Tower. Just like cut, complete $69.00

Why pay more? Any handy man can erect this outfit. Our outfits guaranteed or money back.

The Baltimore Cooperage Co.
Manufacturers
Tanner Block, Baltimore, Md.

$29.50 Buys the Best

Improved Illinois Low Down Cream Separator

direct from the maker to you. We are the only western factory selling direct to the consumer. We ship on 30 days' free trial. Write for free catalogue.

American Hdw. Mfg. Co., Dept. 172, Ottawa, Ill.

POLLED JERSEYS Hornless Dairy Cattle. For Rules for Registration, Breeders Names, etc., write CHAS. S. HATFIELD, Secy., Box 6.R.4., Springfield, Ohio

A B C of Life Insurance

[CONTINUED FROM PAGE 2]

which take account of an expectancy of life that is shorter among working people than among other classes of society, so long as the little policies are written by solicitors who must be paid for their work, and the little premiums are collected from house to house each week, just so long will the cost of this kind of insurance bear grievously upon the very people whose need of low-priced insurance is greatest.

So that—except, of course, in Massachusetts and such other states as may later have the savings-bank insurance plan, under which the cost of solicitation and collection is eliminated—an effort should always be made to take an ordinary rather than an industrial policy. This is not so hard as it was a few years ago for a person in moderate circumstances to do, for some of the insurance companies now write what is called an intermediate policy for sums as low as five hundred dollars and with premiums on the easy-payment plan. Although the risks are so carefully selected in issuing these intermediate policies that they cannot be obtained by all the people for whom they would be beneficial, they offer an excellent scheme of protection in small amounts to those who are permitted to secure them.

SIXTH: Be sure that the policy you take is liberal in the matter of its surrender values. While you go into life insurance expecting to live up to your contract, paying the premiums when they are due and as long as they are due, you still must face the contingency that illness or some other mishap may render it impossible to continue. It is highly desirable, in that event, that you should get back, either in the form of paid-up insurance or of cash or of some other advantageous provision, as large a percentage as possible of the amount you have paid in premiums. Practises vary greatly among the insurance companies in regard to surrender values. Among the industrial-insurance companies the custom is to allow a surrender value after premiums have been paid for three years. A table of surrender values which the State Actuary of Massachusetts has prepared for the use of savings banks in his state illustrates an ideal which is hardly followed by the life-insurance companies, though some of them approach it. These policies begin to have a surrender value after the unusually short period of six months.

Percentage of Premiums Paid Which May Be Received as a Surrender Value

End of Year	Age Next Birthday at Date of Policy 20	30	40	50	60
LIFE POLICY PAID UP AT 75					
1	24%	20%	22%	28%	34%
5	38%	35%	41%	43%	43%
10	43%	42%	46%	47%	47%
15	45%	47%	50%	49%	56%
20	49%	50%	52%	52%	
ENDOWMENT AT 65					
1	26%	23%	30%	46%	
5	43%	43%	51%	60%	
10	48%	50%	58%	69%	
15	52%	56%	64%	82%	
20	57%	62%	72%		

SEVENTH: Look into the question of dividends. Some policies are participating, others non-participating. The former kind entitle you to a share of any profits made by the company, the bonuses coming to you in cash, in extended or paid-up insurance, or otherwise. The other kind entitle you to just what the contract states, and no more. Enthusiastic life-insurance agents often, it is claimed, exaggerate the probable dividends from participating policies. Before arranging for one of these it is well to look up the record of the company.

EIGHTH: Study your individual needs. Without disparaging the value of the work of an industrious and energetic class of men, the mistake should never be made of supposing that the kind of policy which the life-insurance agent talks most persuasively is necessarily the one most advantageous to the prospective insurant. Enlightened self-interest doubtless should prompt him to sell you what you most require; but self-interest is conditioned by the limitations of human nature, and if some particular form of policy nets him the largest commissions, the agent often will find no difficulty in persuading himself that in persuading you to take this policy he is still the practical philanthropist which his manual of instruction describes every life-insurance agent to be. The great vogue, for instance, of the endowment insurance is perhaps not to be explained wholly by its advantages to the insured—although it represents the best form of insurance for many people. It is also due in part to the fact that of all forms of life insurance it is the most profitable for the agent to write. The comparative neglect, on the other hand, of the old-age annuity, which yields very small commissions to the agent, is probably not attributable altogether to national differences of temperament which make it less popular among Americans than among Europeans.

Principal Types of Insurance

STRAIGHT LIFE INSURANCE: This gives nothing but protection against premature death for as long a period as the required premiums are paid. It is the best form of insurance for a person who is otherwise thrifty and who wants to get the maximum of lifelong protection for his family at the lowest possible cost. People approaching or actually in middle age often make a serious mistake in undertaking more expensive forms of insurance when all they have any right to carry is straight life insurance.

ENDOWMENT INSURANCE: Under this designation are various forms of policies which combine protection with saving, so that after a certain number of years, during which the dependents of the insured have been protected, he himself falls heir to a sum of money. The argument commonly advanced in favor of endowment insurance is that it puts an obligation to save upon persons who, though well meaning, would otherwise spend everything going along. It is certainly in the United States the most popular form of life insurance, especially among men.

TERM INSURANCE: This is insurance at low rates for a certain term of years, the policy expiring if the insured outlives the term, and not being renewable except at rates corresponding to the age at which the insured recommences. Although cheap, this kind of insurance is not ordinarily desirable. Its greatest usefulness is in placing heavy insurance on the life of a man who has engaged in important financial undertakings which depend upon his living for their successful completion. Unscrupulous life-insurance agents sometimes sell a fifteen-year or twenty-year term policy in such a way that the insurant supposes he is getting endowment insurance at minimum cost.

NINTH: Endeavor to understand your life-insurance contract before you sign it. Every lawyer is frequently surprised by evidence that an apparently careful person has attached his signature to a document which he has never read. The contracts of reputable life-insurance companies are usually explicitly and intelligently drawn, so that the layman has no excuse for not reading the terms with sufficient care to determine whether he is getting just what he wants. Verify the promises of the agent by consulting each proviso of the contract he tenders you.

TENTH: Above all, make sure that the company in which you insure is absolutely sound and is likely to remain so. Safety is the first essential of all insurance.

While such a necessity of living as life insurance ought seemingly to be furnished to citizens at actual cost through machinery provided by the state, yet in the existing organizations of American states its development will undoubtedly continue to rest with the insurance companies or quasi-public corporations like the Massachusetts Savings Insurance banks. The organizations, of the legal-reserve type, have already received from the American people premiums amounting to more than six billion dollars. They have paid back in claims, dividends, surrender values and otherwise nearly four billion dollars. They hold as present assets, including their reserves, more than two and one half billions. That the American people have been willing to entrust them with such sums argues well for their conduct in most of the periods of life-insurance history.

Farm Jingles

Why does the farmer boy,
When he goes forth to catch old Jack,
Whistle tunes of mirth and joy
And hide the bridle behind his back?

Here and there
Everywhere
In the land
There's a smile
Worth the while
For the farmer man.

By the crop he reaps
And the stock he keeps
Is the farmer known

WILLIAM J. BURTSCHER.

Try this for a Big Load

The easiest running wagon or dray is the one lubricated with Mica Axle Grease.

Kills friction; stops wear; makes a two-horse rig run with one-horse power.

MICA Axle Grease

contains powdered mica which coats the axle with a non-friction surface—*that's* the *why* of it.

No grease helps as much as Mica Axle Grease.

If you try it, you'll know it.

Ask your dealer.

STANDARD OIL COMPANY
(Incorporated)

DEATH TO HEAVES Guaranteed

NEWTON'S Heave, Cough, Distemper and Indigestion Cure. A Veterinary Remedy for Wind, Throat and Stomach troubles. $1.00 per can, of dealers, or express prepaid. Send for booklet. The Newton Remedy Co. Toledo, Ohio.

$28.80 For The 300 Pounds Per Hour Capacity

ECONOMY CHIEF CREAM SEPARATOR

SKIMS THE CLOSEST.
Because the patented double opposed disc bowl is twice as effective as any single series disc bowl.

TURNS THE EASIEST.
Because it has only three gear wheels — finest anti-friction bearings—lightest all solid steel bowl made.

CLEANS THE QUICKEST.
Because it has the only self emptying and self cleaning bowl. Centrifugal force, and a minute or two of your time cleans it.

LASTS THE LONGEST.
Because the bearings are phosphor bronze and double length—that means double wear—finest cut gearing—every part twice as strong as necessary.

WORTH THE MOST.
Because it gets the most cream in the best condition and does it easier.

PRICE THE LEAST.
Because sold by Sears, Roebuck & Co., the world's greatest price makers who make each of your dollars do the work of two.

PAYS THE BEST.
Because it gets a little more cream each day, runs a little easier and lasts a little longer than any other separator that money can buy.

60 days' trial. 20 years' guarantee. Money and freight charges back if not satisfied. Write today for free copy of the Economy Chief Dairy Guide *that tells you all.*

SEARS, ROEBUCK AND CO CHICAGO

In the Field

What Constitutes Good Plowing?

THE answer to this question will be modified by conditions that are more or less local in their application. These include the nature of the soil, its mechanical condition, the humus supply and the crop that is to be grown.

Humus soils with good, natural drainage will grow crops if turned over to a sufficient depth to cover all the stubbles and weeds that may be growing in them, regardless of the width of the furrow slice. With increasing heaviness in the soil comes increase in the demand for narrowing the furrow slice and for laying it on such an angle as will admit of harrowing down in due time the crest of the overturned furrow. The difference in the width of the furrow slice runs all the way from eighteen to seven inches.

Should the soils have good, natural drainage, they may be left as level as possible; but if they are liable to suffer from excessive wet, they should be plowed in lands or ridges that are highest in the center. These ridges vary in width from ten feet to several times that width. When the land is plowed in ridges, it adds much to the appearance of the work if the furrows are drawn straight and even.

The mechanical condition of the soil materially influences plowing. Good plowing in sandy soil turns a shallow furrow. In stiff soil it turns a deeper furrow. In practically all soils the furrow slice should be turned at an angle. In waxy soils the plowshare must be kept scoured, or it will not do good work.

The humus or vegetable matter in the soil affects the character of the plowing to be done. Especially is this true of land that has grown weeds or grass. No plowing is deserving of the appellation good that does not completely bury weeds and stubbles. When plowing sod land, if a skimmer is attached to the beam in front of the colter, grass will be completely hidden. A skimmer is a miniature colter.

The plowing should have a careful regard to the kind of crop grown. Some crops call for deep plowing, as corn and field roots, and some for plowing that is shallow. No plowing could be called good that is not adapted to the needs of the crop in regard to depth, whatsoever its other characteristics may be. On nearly all Southern soils no plowing is really good that is not deep, and on the blow soils of the prairie no plowing is good that is deep. Thus do conditions affect plowing. WM. H. UNDERWOOD.

How Many Grains of Corn to the Hill?

WHEN I was a boy we used to plant from four to five grains of corn to the hill, and how our backs did ache at thinning-corn time. Most every hill had to be thinned down to two or three stalks. Those days we were not so particular in selecting our seed corn, and we wanted to be sure to get a stand of corn the first time, for the early crop was always the best. But we learned a lesson after nearly breaking our backs. The lesson was that if one is careful in selecting and caring for his seed corn he will be able to get a good stand by setting his planter to drop two and three grains to the hill. This we did, and there was no more thinning of corn.

Farmers have discovered that after taking great precaution with their seed, if two or three grains to the hill will not bring a stand of corn, neither will four or five, so most all farmers in this section set their planter plates to drop from two to three grains. There is no doubt that two or three stalks to the hill produce better than four or five even on exceedingly rich ground. If the corn is drilled the planter is set to drop one grain about every ten or twelve inches. This plan has proved very successful for most of our farmers. W. D. NEALE.

Clover on Permanent Pastures

THERE is a constant drain of fertility from permanent pastures. How to meet this drain and at the same time get the benefit of the pasture is one of the farm problems. I have made some experiments with clover in that direction that may possibly be of interest.

About twelve years ago grubworms badly injured the blue grass in a small pasture I have for horse and cow. It occurred to me to sow clover on it, in the hope that I might get more pasture. I gave it a light sowing of medium red clover in February.

It happened to be one of those years that clover catches if any seed is sown. Such years come now and then in this latitude. The clover on that blue-grass lot that year was the surprise of the neighborhood. I pastured the lot as usual, and filled a good-sized mow with clover hay from it, cut where patches were not eat down.

Since then I have sowed some clover on this patch nearly every year. I have never got such results as from the first sowing until last year, but I always got some clover and sometimes a good deal.

I had been sowing medium red. In the winter of 1906-1907 I sowed alsike. Again happened one of the extra good clover years. On quite a little of the lot I had a good stand. In the season of 1908 I pastured the lot as usual and could have cut a pretty good crop of hay in addition from much of it.

My experience has been that in dry seasons clover sown on this blue-grass sod would not do very much, but would improve pasture enough to pay for seed and sowing. In moister seasons it would do much better, and in very favorable seasons on much of the ground the stand would be good. The growth is small the first year, and unless examined with care, little clover will be seen. I have never sowed more than one fourth as much seed as would usually be sowed on wheat ground.

I think if the blue-grass sod were harrowed or disked lightly late in the fall, and a bushel of seed to five or six acres sown, much better results than I have got would be secured.

The lot is a hillside, sloping to the south and west, a tenacious clay on limestone, the limestone coming close to the surface.

Ohio. HENRY M. HUGGINS.

Alsike Clover in Permanent Pasture

While you are using the best kind of plow or saw or thrashing machine for the farm work, do not forget to give your wife the best-quality stove and lamp and other utensils for the housework.

PAROID ROOFING

PAROID is a tried roofing—it has stood the test of time and is used by the U. S. Government and farmers on all kinds of buildings.

You take no risk with PAROID ROOFING because it is made better than any other ready roofing on the market. It lasts longer.

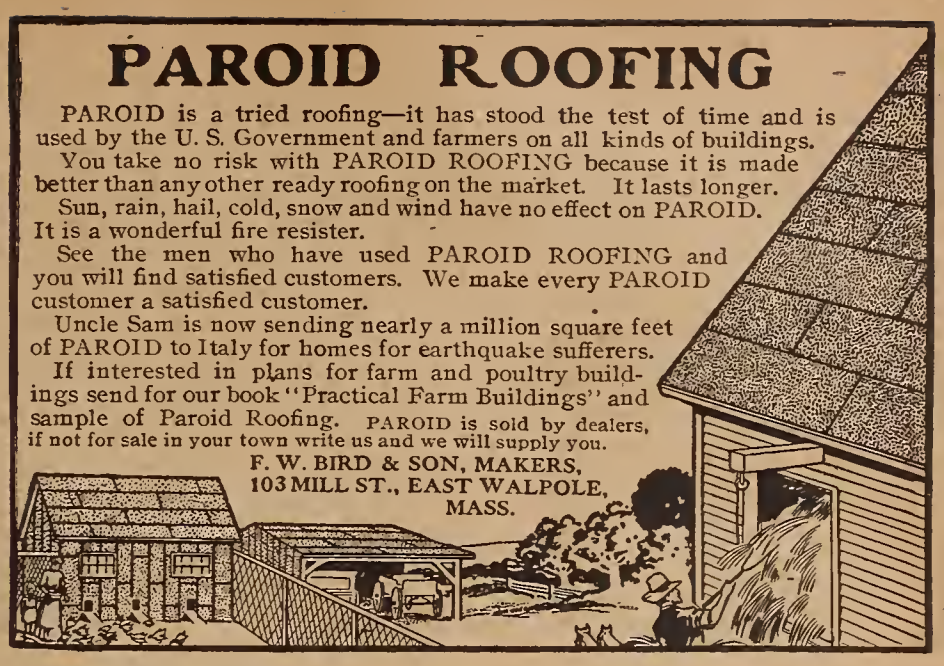
Sun, rain, hail, cold, snow and wind have no effect on PAROID. It is a wonderful fire resister.

See the men who have used PAROID ROOFING and you will find satisfied customers. We make every PAROID customer a satisfied customer.

Uncle Sam is now sending nearly a million square feet of PAROID to Italy for homes for earthquake sufferers.

If interested in plans for farm and poultry buildings send for our book "Practical Farm Buildings" and sample of Paroid Roofing. PAROID is sold by dealers, if not for sale in your town write us and we will supply you.

F. W. BIRD & SON, MAKERS,
103 MILL ST., EAST WALPOLE, MASS.



ELKHART BUGGIES

are the best made, best grade and easiest riding buggies on earth for the money.

For Thirty-Six Years

we have been selling direct and are

The Largest Manufacturers in the World

selling to the consumer exclusively.

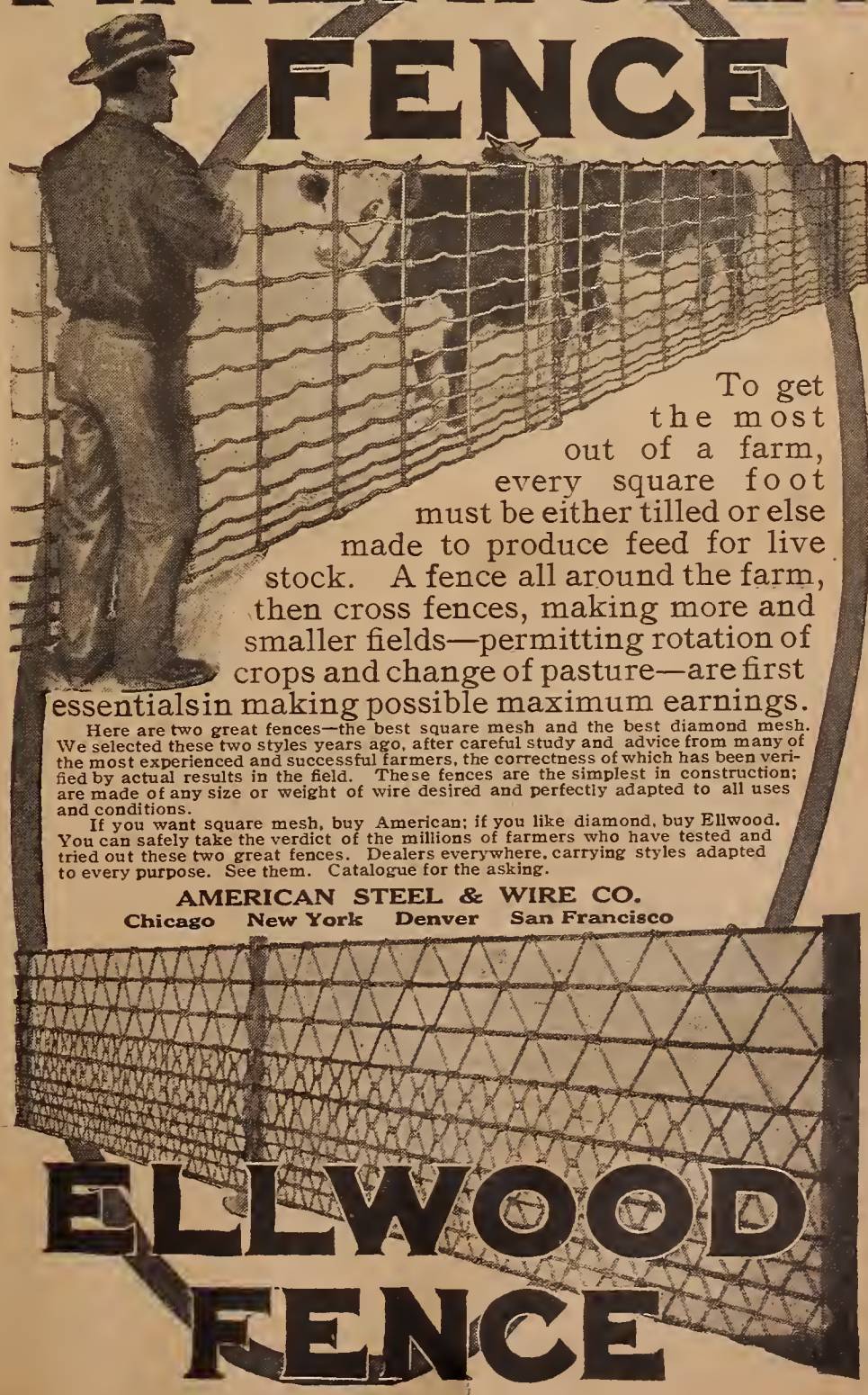
We Ship for Examination and Approval

guaranteeing safe delivery, and also to save you money. If you are not satisfied as to style, quality and price you are nothing out.

May We Send You Our Large Catalogue?

Elkhart Carriage & Harness Mfg. Co.
Elkhart, Indiana

AMERICAN FENCE



To get the most out of a farm, every square foot must be either tilled or else made to produce feed for live stock. A fence all around the farm, then cross fences, making more and smaller fields—permitting rotation of crops and change of pasture—are first essentials in making possible maximum earnings.

Here are two great fences—the best square mesh and the best diamond mesh. We selected these two styles years ago, after careful study and advice from many of the most experienced and successful farmers, the correctness of which has been verified by actual results in the field. These fences are the simplest in construction; are made of any size or weight of wire desired and perfectly adapted to all uses and conditions.

If you want square mesh, buy American; if you like diamond, buy Ellwood. You can safely take the verdict of the millions of farmers who have tested and tried out these two great fences. Dealers everywhere, carrying styles adapted to every purpose. See them. Catalogue for the asking.

AMERICAN STEEL & WIRE CO.
Chicago New York Denver San Francisco

ELLWOOD FENCE

TOWER'S FISH BRAND
WATERPROOF
OILED
CLOTHING
will give you full value for every dollar spent and keep you dry in the wettest weather.
SUITS $3.00
SLICKERS $3.00
POMMEL SLICKERS $3.50
SOLD EVERYWHERE
CATALOG FREE
A. J. TOWER CO. BOSTON, U.S.A.
TOWER CANADIAN CO. LIMITED TORONTO, CAN.

$375 Up
McIntyre Guaranteed Motor Buggies
Sure service—always ready—never fail—never get tired—cost no more than a good horse and buggy—cost far less to keep—sure-goers over
Any Kind of Roads
Speed up to 30 miles an hour. Simple, durable, guaranteed mechanical construction. Solid tires—no tire troubles or repair expense. A woman or child can drive them. Farmers of high standing may secure appointment as agents. Twenty models to choose from. Complete line. Write for free catalog No. 70, illustrated and descriptive.
W. H. McINTYRE COMPANY, Auburn, Indiana
256 Broadway, New York. 1730 Grand Ave., Kansas City.

The Economy Motor Buggy
12 Horse Power — 2 Cylinders — Air Cooled
$500
A handsome, practical, solid rubber tire motor buggy. Costs less to own and operate than to keep a horse—no tire troubles—no punctures or blow-outs.
Most Economical Motor Vehicle Made
Suitable for country or city — rough roads no obstacle. A great hill climber — goes anywhere 4 to 20 miles per hour. Absolutely reliable and requires no experience to operate. Every "Economy" is fully guaranteed. If you are interested in a Motor Buggy, we have the best proposition to make you that you have ever heard of. Write us at once for catalogue and full particulars.
ECONOMY MOTOR BUGGY CO.,
Department Y Joliet, Illinois

Steel Wheels
WITH GROOVED TIRES
4 in. wide. The Groove protects the heads of spokes from wear, which makes wheel good and strong till tire is worn out. We make plain tire wheels in other widths. We make wheels to fit any thimble skein or straight steel axle. Get our free catalog of Steel Wheels and Low Down Handy Wagons.
HAVANA METAL WHEEL CO.,
Box 55 Havana, Ill.

Holsman Automobiles
High Wheels Travel all Roads, Because all Roads are made to be traveled by High Wheels.
Oldest and largest makers of high-wheeled automobiles in the world. World's record for Hill-climbing and Reliability contests in this class. Only all ball-and-roller-bearing motor made. New friction-chain direct drive—no gears. Roadibility and Reliability are the reasons for high wheels and solid rubber tires. Send for our catalog and learn more about these popular, intensely practicable vehicles and their low cost.
HOLSMAN AUTOMOBILE CO.
Suite 130 Monadnock Blk Chicago
Go Anywhere

Start your Gas Engine with the
Motsinger Auto-Sparker
and run it without the aid of batteries. Not a cheap magneto but the original high grade speed controlled friction driven dynamo. Perfectly insulated, "water and dust proof." Fully Guaranteed. Operates "make & break" and "jump spark." Charges all storage batteries for ignition and lighting on a small scale, perfectly with our special switch board in the circuit. Ten years actual service with over 36,000 Auto-sparkers in operation to testify to its merit.
Write for Catalog.
MOTSINGER DEVICE MFG. CO.
24 Main St., Pendleton, Ind., U. S. A.

WAGON SENSE
Don't break your back and kill your horses with a high wheel wagon. For comfort's sake get an
Electric Handy Wagon.
It will save you time and money. A set of Electric Steel Wheels will make your old wagon new at small cost. Write for catalogue. It is free.
ELECTRIC WHEEL CO., Box 96, Quincy, Ill

YOU CAN SAVE
money on everything you buy, whether for yourself, your home, or your farm—that is what the Million Club offers to our millions of readers. It costs nothing to join the Million Club—in fact, it means money in your pocket from the very day you become a member.
Write for further particulars and for our big Reward List containing 300 illustrations—it is free. Address
John L. Thompson, Secretary
THE MILLION CLUB
Farm and Fireside Springfield, Ohio

The Boy and the Girl on the Farm

At Home With the Children

HOME! Children! Sweeter words than these I do not know in all our language. Were I called upon to give a recipe for making the world happy, I would write just those two words, Home, Children. For the man who has no home and no boys and girls cannot be happy. He may have money by the million. He may know all there is to be known. He may travel to the ends of the earth hunting for a good time. He never will find it unless somewhere there is a place he can call home, and a fireside around which every night gather the good wife and the children.

And yet you know homes which are not happy even with the little ones. A good many years ago I taught school in a village in western New York. Now and then I went to the home of a man and woman who had some six or seven children. I do not call them husband and wife, for no such sacred relation bound them together.

Not the slightest particle of peace or real happiness ever came to those children while they were in the house where their father was. The mother used to sympathize with them and try honestly to be true to them, but the father never knew the first principles of love in his heart.

How well I remember one day, when the father came into the house with a whip, one of the boys ran crying to the farther end of the room.

"Who you goin' to lick, Tommy or me?" he asked, uncertain who was to be the victim this time of the father's wrath. He could not think of anything he had done to deserve the whipping, but past experience had taught him that not always was a pretext needed to bring upon him the dreaded chastisement.

Poor little chaps! Living always under a cloud! And the result? A home ruined; the mother going out to a life of disgrace; some of the boys almost failures; some of the girls fairly outcasts. Oh, the wreck which came from such a mistaken way of dealing with children! And yet that man thought he was doing the best thing for his boys and girls. He preached to them by the hour. He read to them out of the Bible and other books what was the duty of children toward their parents and society in general. But that man was no more fit to bring up a family of children than the veriest brute.

Let's draw the curtain. The picture is too dark. How thankful I am to turn to another home not far away which presented such a contrast that no words of mine can portray it. There the father had been taken away. The mother—and she was a mother indeed—was left with six little ones on a small farm. There was a mortgage on the land. Times were so hard that it was one constant strife to keep the basin from scraping on the bottom of the barrel.

The neighbors said, "Let the children go! They will find homes elsewhere."

"I cannot do it!" was the answer. "As long as I have a home they shall stay with me!" And she wove nights and worked out days. She studied with her boys and girls. She kept their clothes well mended. She fairly killed herself to be everything she could to those children.

And she won out bravely! How could it be otherwise? God would never let a mother like that be defeated! Easier times came. The children grew older and stronger. The mortgage was paid off. Into the house better things found their way. The mother lived to see her boys and girls men and women honored and respected wherever they went.

And how they did cling together! The "Royal Family," the neighbors used to call them, and they were not unworthy the name. Through all the years that little farmhouse away out in the country was the best and dearest place to them in all the world. Just because it was a home in the best sense of the word and because there was a mother in it.

Now this is no dream. Now and then we read stories setting out plans for making the boys and girls contented and keeping them on the farm. Some of these are good, some are far wide of the mark. It is my opinion that nothing ever proposed in the direction of home making and home keeping can be in any way compared to love in the heart of father and mother. You may have all the furniture, all the books and papers, all the farm machinery, all the nice things to fit up the room, but if there be not loving hearts to go with them they are as sounding brass and tinkling cymbal.

The farm home ought to be the best place on earth for all who live in it. There surely is no better place to bring out all that is best in a young man or woman. And it may be so if the central figure of all be a man and woman with hearts pure and clean and a realizing sense of what fatherhood and motherhood really mean.

Will not every man and woman who read this, stop now and ask, "Am I making my home what it ought to be?"

EDGAR L. VINCENT.

The Boys and Girls at Home

SINCE my article advising farmers to keep on the farm all the boys that wanted to stay appeared in FARM AND FIRESIDE, I have received quite a number of letters from both farmers and young men who do not wish to leave the farm. Most of them desire to know what sort of an arrangement should be made between father and son respecting wages, or share in the crop, or rental of land.

Some of the fathers appear to be waking up to the fact that the boys deserve better treatment in the matter of a chance for themselves than they have been getting. A few of the boys are treated well by their fathers, in fact too well for their own good. They have what they call "a soft snap," and they seem bent on getting all there is in it. But these are the sons of parents who haven't enough good, sound sense to bring the boys up right. The large majority of boys are sensible young fellows who are looking ahead to the time when they will have to strike out for themselves. They see the time is rapidly approaching when they will have to hoe their own row, and they are thinking pretty hard about the necessary stake to begin business with.

The young chap who finds himself twenty-one years of age, and without a dollar he can call his own, feels that he is at the bottom of a long and steep hill, with all the chances of a successful climb against him. The question uppermost in his mind is: How many years will it take to get enough ahead to buy a home for himself? Of course he has some young lady in mind, and he wants a home nest of his own to take her to. But the outlook is anything but encouraging, even to the stout heart of a spirited young man. In the city the young man does not think of owning a home. He figures on the rent he will have to pay for a couple of rooms. But the boy who has lived on his father's own farm all, or nearly all, his life, dreams only of ownership, and it is a fact that these are the boys who make our best citizens. The question for the fathers of these boys is whether they shall give them a start, a fair chance in the world, or allow them to become hewers of wood and drawers of water for others until the high hopes and home dreams of strong young manhood fade away with the years of uphill struggle, and the once bright, hopeful youth stops midway in life, and looking back and then forward, finds he has missed out.

Give the Farm Boy a Practical Business Education

I believe in the boy who wins out for himself. He makes the best man, the most self-reliant. But such boys are few, and they can be trusted to look out for number one. It is the average boy I am speaking of. He needs to be shown the way while he is young, to be given a fair chance in the world. And the best place in the world to show him and give him that chance is at home. It is not necessary to make a mollycoddle of him, but he needs to be developed along practical lines, to be taught how to buy and sell in a businesslike manner, to know something about checks, notes, mortgages, drafts and other business papers, about taxes, due bills, receipts, etc. How many men feel green as goslings when brought into deals in which the simplest legal papers are used. How many of them quietly slip around to a friend to ask if the note or receipt they have taken is all right. How few men can draw up the simplest legal contract. Have the boy informed in these simple matters so that no one can take a mean advantage of him in any sort of a deal. These matters are as important as learning to read and write, and the boy should thoroughly understand them when he reaches his majority.

Then give the boy a chance to do something for himself. If he is intent on leaving the farm for the city, and nothing else will satisfy him, let him go. The sooner, the better. If he finds he has made a mistake, and wants to come back and make a new start, give him a good chance to do so. I know lots of boys who have raised crops on small tracts of their father's land every year after they were twelve to fifteen years old, sold the crops and put the money in a bank to draw a small rate of interest, and when they reached their majority they had quite a nice little sum to their credit. I know other boys, and girls, too, who have had charge of the poultry on the farm for years. They sell the eggs and the surplus stock after supplying the family table, and are as sharp about getting the best prices as any one. One girl of fourteen I know watches the chicken and egg market as closely as her father watches the hog market. She has some good stock, gets lots of eggs and raises lots of chickens every year, and she already has a sum in the bank that would almost turn the heads of lots of girls. I know other girls who never had a dollar they could call their own, and who have no more idea about business transactions than spring chickens. Don't let children grow up in utter ignorance of such important matters, because it places them at the mercy of any mean sharper that comes along.

Let Both Parties Have a Square Deal

In the matter of what should be a fair share of the crop, what would be a fair rental, etc., let me say that in all transactions of this sort within a family the uppermost idea should be a fair, square deal for and by both parties. The father should give the boy or girl a square deal, and the boy or girl should do the very best they can, keeping all transactions between them open and above board. If each tries to give the other his or her full dues, all little differences of opinion will be fixed up as they come along with the best of feelings. There will be no jarring, and each will feel that he is giving and receiving his full dues.

A young girl asks me what should be her fair share of the poultry and eggs, and who should buy the extras, like grit, shell, beef scraps, etc. I would suggest that she supply the table with both eggs and chickens in return for all feed, and that she buy the breeding males required and all grit and shell used. Beef scraps are not needed. Laying hens lay better and for longer periods if they have plenty of oyster shell, but on most farms where the fowls are on range and have access to the ashes from the stove very little grit is required. If there is gravel they can get to, no grit at all is needed.

I know a girl the age of this inquirer (fifteen) who last year sold something over three hundred dollars' worth of eggs and poultry from the farm flock. Of this amount she gave her mother fifty dollars for the advice and help given. The father told her she was welcome to all she could make from the poultry. Last year was her third one with the poultry, and her father says he believes she has become the best business man on the farm. One has scarcely any idea how a little practical business develops the boys and girls.

In the management of a farm, where the son takes full charge, I think it is advisable for each party—father and son—to equally share all expenses, hired help, repairs and all other necessaries, and to equally divide all receipts. Each of course is expected to take as much interest in the farm and stock as partners in any other business are in stock, sales and purchases. They should come to an understanding in all matters relating to the business as they come up, and mutually decide on all purchases and sales. If the spirit of the square deal governs all their transactions there is no reason why the business should not be continued year after year with profit and mutual benefit to both. This spirit of the square deal should be kept uppermost in the minds of each partner. I know of one arrangement of this sort that has been continued for nine years. The son is married, and the old folks built themselves a comfortable little cottage in the orchard, and there has not been a single jar in the family, nor is there likely to be any. The spirit of the square deal governs all transactions and entire satisfaction is mutual.

As I have said before, if the farmer would give his boys a good chance to make something for themselves as they grow up, and teach them the art of saving, so that they will have a substantial little fund of their own when they take up life's work on their own account, there would be many more boys or men who would stick to the soil and learn intensive culture in its best sense; there would be fewer large farms and more satisfied farmers, less overcrowding of the cities and more happy homes in the country. Farmers should give this matter their best thought. Give the boys a good chance to make for themselves homes in the country. Keep them on the land—they will be happier there. FRED GRUNDY.

Asked and Answered

Manure and Slag on Sandy Loam

A SUBSCRIBER from New York writes: "How can I use manure and slag on a very sandy loam—one before and the other after plowing?"

I am not sure that I understand exactly what this correspondent means. There should be no trouble in applying manure to a sandy loam before plowing. If his rotation includes clover and grass, I should recommend using the manure on the grass land and getting part of the return in hay, and then plow for corn. The inquiry as it reaches me states nothing about the kind of farming followed. If by slag is meant the basic or phosphate slag, this could be applied after plowing as any other fertilizer would be and in about the same quantities as acid phosphate, or perhaps a little less. Basic slag acts somewhat like lime, and for that reason should not be mixed directly with the manure.

I receive a great many inquiries about the value of the slags from the various American industries, the impression seeming to be prevalent that any slag is valuable as a fertilizer. So far as I know, there is very little slag of any value produced in this country. Most of the basic slag comes from Europe, and unfortunately the prevailing price in this country is so high as to interfere with its more general use. ALFRED VIVIAN.
Ohio State University.

Lime Not a Food

A READER of FARM AND FIRESIDE, a Pennsylvanian, writes that he does not see much in our paper about liming land, and asks us to give something on liming acid soils to produce clover.

Before using lime it would perhaps be well to determine if lime is actually needed in your soil. While lime is absolutely necessary to success with many soils, there is some danger of jumping to the conclusion that lime is the universal panacea for all of the ills to which the soil is heir. The agricultural press is teeming just now with articles on the liming of soils, and the results of liming in some cases have been so remarkable that some of us are likely to hastily conclude that we can get like results, when perhaps our own soil does not need lime at all. A good physician will study thoroughly the symptoms and make a careful diagnosis of the case before he prescribes medicines for his patient. In like manner, the careful farmer will study his soil carefully before he prescribes for it. The immense value of lime in agriculture is one of the greatest discoveries of modern times, and its discovery bids fair to revolutionize agricultural practises in some sections of our country, but we must not lose sight of the fact that the practise of liming soils is only one of the many things which we must do if we are to maintain their fertility.

One of the best indications of the need of lime is the behavior of the clover plant. A perfect growth of clover is almost an absolute indication that the soil contains plenty of lime and that nothing will be gained by adding more. If, on the other hand, the clover, after germinating nicely in the spring, makes only a few weeks' growth, and then begins to disappear all over the field, the indications are that the soil is acid and that an application of lime will be beneficial. The presence of the sorrels, mosses and sedges in large quantities are additional indications that the soil is acid, for these plants can grow in sour soils while the clover cannot.

Probably the best way to use lime is on one crop in the rotation. The usual rotation in the country is one in which corn follows clover or the grasses. In such a rotation I should apply the lime to the soil plowed for corn. It should be evenly distributed and well worked into the soil. When the lime is used in this way it becomes thoroughly mixed with the soil before the field is again planted to clover, and in this way appears to give better results than when it is used immediately before the clover.

The Ohio Experiment Station used one ton of lime to the acre in its five-year rotation, and I understand that at the end of the rotation the indications are that the soil is about ready for another application. From one thousand pounds to one ton seems to be the generally accepted amount to apply, depending on the degree of acidity in the soil; perhaps the larger amount would be safer. Where one can obtain the finely ground limestone at a reasonable price, I would advocate its use, remembering that at least twice as much of this material must be used as of pure lime—namely, one to two tons to the acre. Ground limestone can be used in any quantity and at any time without fear of injury to soil or crop, which is not absolutely true of lime (so-called quicklime).

Always bear in mind that lime in no way takes the place of manures, fertilizers or green manuring. It simply remedies a sick condition of the soil and should be considered rather as a medicine than as a food. Its use without the use of manures or fertilizers would be much like trying to sustain the human body on stimulants alone without the use of food, and would result only in the greater impoverishment of the soil. On the other hand, when a man is sick he sometimes needs medicines to get his system into condition so it can again assimilate food, and in the same way a soil which is sick with acid must have that acidity cured with lime before it can make use of the plant food in the manures or fertilizers. Perhaps my simile is a little far-fetched, but I think the reader will appreciate the point which the writer is trying to make—that lime is a corrective and not a food.

ALFRED VIVIAN.
Ohio State University.

Agricultural News-Notes

Tea culture is a fairly profitable industry. A good beginning has been made at Summerville, South Carolina.

The farmer who does not try new methods never improves his old ones. In farming, new ideas and better methods are always in order.

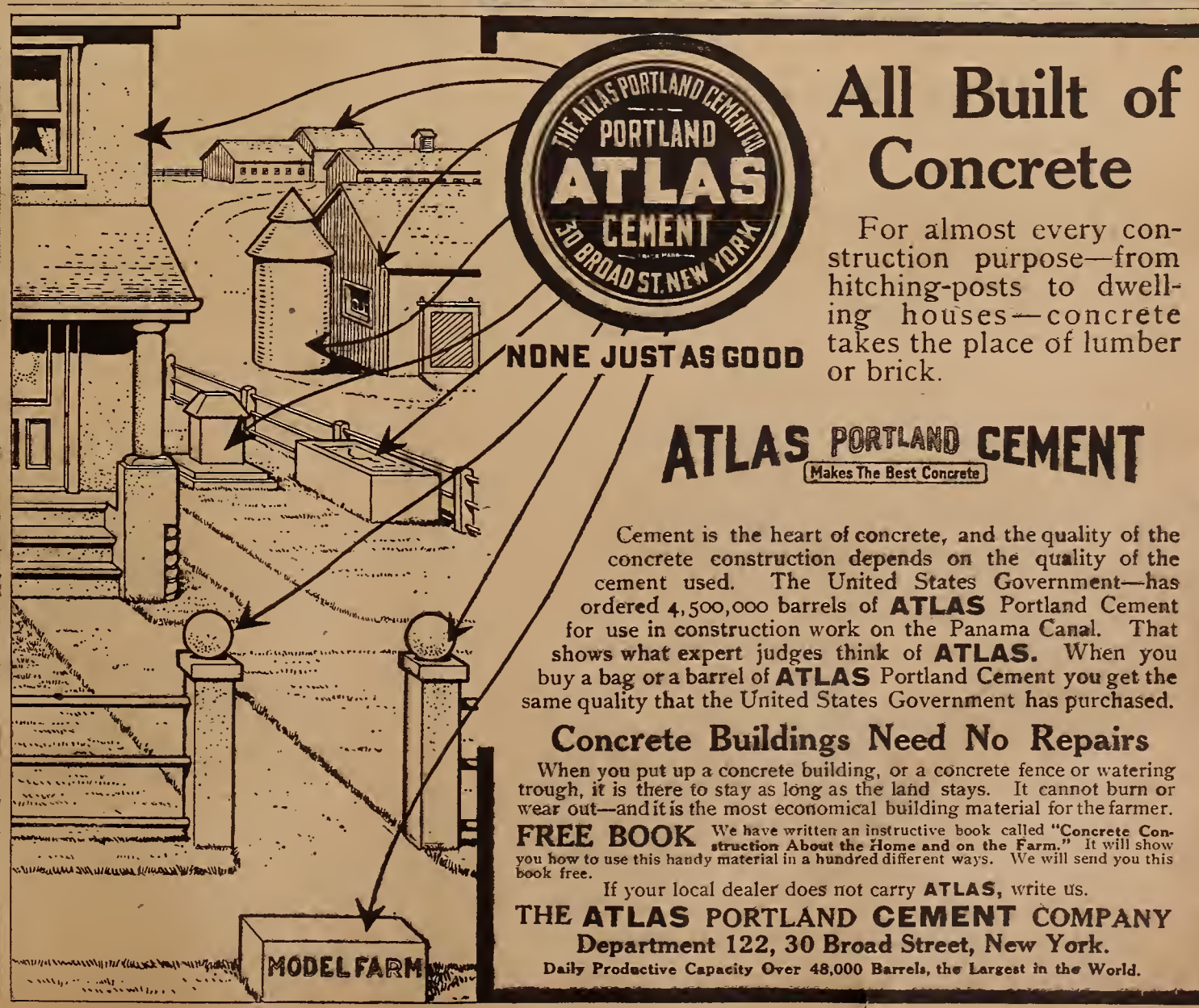
According to the United States Census of 1900, the persons engaged in agriculture and manufacturing represent more than three fifths of the total population engaged in useful work.

The rural-free-delivery system has proved so popular that many of the farmers along the various routes are beginning to recognize the vital importance of improving the public roads.

Although cotton is still "King" in the South, the scepter is now upheld, and corn, wheat, hay and tobacco are being accorded a respectful hearing that has been altogether too long deferred.

Reliable statistics go to show that nearly seven hundred million pounds of sugar are now made in the United States yearly, which is an allowance of eight and one half pounds for every man, woman and child. *

BARRETT MANUFACTURING CO.
New York Chicago Philadelphia Boston Cincinnati Minneapolis
Cleveland St. Louis Pittsburg New Orleans Kansas City



All Built of Concrete

For almost every construction purpose—from hitching-posts to dwelling houses—concrete takes the place of lumber or brick.

ATLAS PORTLAND CEMENT
Makes The Best Concrete

Cement is the heart of concrete, and the quality of the concrete construction depends on the quality of the cement used. The United States Government—has ordered 4,500,000 barrels of ATLAS Portland Cement for use in construction work on the Panama Canal. That shows what expert judges think of ATLAS. When you buy a bag or a barrel of ATLAS Portland Cement you get the same quality that the United States Government has purchased.

Concrete Buildings Need No Repairs

When you put up a concrete building, or a concrete fence or watering trough, it is there to stay as long as the land stays. It cannot burn or wear out—and it is the most economical building material for the farmer.

FREE BOOK We have written an instructive book called "Concrete Construction About the Home and on the Farm." It will show you how to use this handy material in a hundred different ways. We will send you this book free.

If your local dealer does not carry ATLAS, write us.

THE ATLAS PORTLAND CEMENT COMPANY
Department 122, 30 Broad Street, New York.
Daily Productive Capacity Over 48,000 Barrels, the Largest in the World.

Farm and Fireside's Great

Easter Offer

Good Until April 30th And Not One Day Later

EVERY reader of FARM AND FIRESIDE can obtain our great, unsurpassed Easter Gift without one cent of cost. We have had made especially for our subscribers an exquisite mezzotone reproduction of H. Hofmann's famous picture, "Easter Morning."

Our mezzotone reproduction is 16 by 11½ inches in size, upon heavy plate paper, in sepia color. The picture will be shipped carefully packed in a tube, ready for framing, all carriage charges prepaid by FARM AND FIRESIDE.

We want this beautiful picture to hang in the home of every FARM AND FIRESIDE family, for it is one of the most beautiful pictures of Christ in existence. Such an opportunity to obtain, absolutely free of cost, for your own home, one of the world's great masterpieces, superbly executed, may never come to you again. Our offer is good for the next twenty days only. It will be positively withdrawn on April 30th. To obtain the picture your request for the same must be mailed by April 30th.

"EASTER MORNING"
You will receive a large and handsome reproduction of the picture for framing.

Our Mezzotone Reproduction

The small copy of the picture "Easter Morning" shown above gives no idea of the richness, size and beauty of our mezzotone reproduction. The picture that we will send you is printed by an expensive process in mezzotone, on large plate paper, 16 by 11½ inches in size, in sepia color. All the delicate and exquisite details of the original are brought out in a marvelous manner. This mezzotone reproduction truly is an art masterpiece *de luxe* that would cost you a good deal of money if purchased at an art store. The picture can only be obtained in connection with the offer below.

Our Offer

We will send our mezzotone reproduction of "Easter Morning" **free of charge** in connection with a two-year subscription (48 numbers) to FARM AND FIRESIDE at **50 cents**, or a one-year subscription (24 numbers) at **35 cents**. The subscription may be your own renewal or a subscription for a friend. The picture will be shipped carefully packed in a tube, to any address, ready for framing, all carriage charges fully prepaid by FARM AND FIRESIDE. Use the order blank to-day.

To obtain the picture your order must be written on, or attached to, the order blank opposite, and your order must be mailed by April 30th.

CUT OUT AND MAIL THIS BLANK TO-DAY

April 10th.
FARM AND FIRESIDE
Springfield, O.
I accept your great Easter Offer. Enclosed please find $..... .....for which send the picture "Easter Morning" free of charge, and send FARM AND FIRESIDE for.....years to

Name. .....

Street or R. R. .....

County ..... State .....

If you wish to have the picture sent to an address other than the one above, write the address below, or on a separate piece of paper.

Farm and Fireside
Springfield, Ohio

Notice—For a two-year subscription to FARM AND FIRESIDE and the picture send 50 cents; for a one-year subscription to FARM AND FIRESIDE and the picture send 35 cents. The subscription may be your own renewal or a subscription for a friend. If your own subscription has not yet expired you can renew it in advance from its present date of expiration, in connection with this offer. If you send your own renewal, it will help us to enter it correctly if you will cut off and enclose your address label which came on this copy of the FARM AND FIRESIDE. To obtain the picture your order must be written on, or attached to, the blank opposite.

Your Order Must Be Mailed by April 30th

Pony News

For Our Boys and Girls

By the Pony Man of Farm and Fireside

"Dandy"

DEAR BOYS AND GIRLS:—I just wish you could see "Dandy" to-day. The pictures of him on this page don't half do him justice. He is the handsomest little pony I have ever seen. To think that in a few weeks now, one of you boys or girls is going to have "Dandy" for his or her very own. Not only "Dandy," but his cart and harness, also. And to think that this magnificent pony outfit, which is just as handsome as that owned by any little European prince, will not cost you a single red cent!

"Dandy" is doing finely; he is handsomer than ever, as playful as a kitten and just as gentle. Whichever of you boys and girls gets him will be the luckiest and happiest boy or girl in America. "Dandy" is worth trying for ten times harder than anything else you ever tried for in your life. Tell everybody you are trying for "Dandy," and ask them to help you, and the Pony Man will help you, too.

Four Prize Ponies

And remember—there are three more beautiful ponies besides "Dandy," all of which are to be given away on May 31st, to our boys and girls. Four of you boys and girls are each to be given a lovely pony. "Dandy," "Cupid," "Molly" and "Beauty," all are as fat and healthy as can be—just waiting for you. In a few days now they will be out in pasture, and then what a romp they will have. Wouldn't you like to play with them?

You can win one of these ponies. All you need to do is just to try hard enough. It will certainly be worth while when you can go riding and driving every day all summer long with your own pony.

In addition to all the ponies there are four $600 pianos, bicycles, guns, talking machines—hundreds of handsome prizes for our boys and girls.

Send Me Your Name To-day

If you have not yet sent your name to the Pony Man, do so to-day. Don't wait. You can win one of these beautiful ponies or other magnificent prizes just as well as any one else can, but don't delay, get started at once. You can't lose. Every enrolled contestant will get a prize.

First of all, hustle for the special prize. I am going to give every boy or girl who sends me ten subscriptions to FARM AND FIRESIDE before April 20th a **special prize.** This of course is entirely **in addition** to the ponies, pianos, the hundred Grand Prizes, and the prize that every contestant will receive. It is a **special extra prize** for you if you hustle, so start right in to-day to get ten subscriptions.

Do You Not Want to Win "Dandy?"

How to Get a Pony

First, cut off the coupon below and send it to me. I'll write you immediately and send you many pictures of the ponies, and lots of other things. But if you want to make sure of a prize the very first thing, don't wait to hear from me, but hustle and get ten of your neighbors or friends to each give you 25 cents for a subscription to FARM AND FIRESIDE to run the **entire balance of the year 1909.** Then you will be a prize winner **sure,** and you may keep five cents from each subscription for yourself. Hurry and get the ten subscriptions. You can do it in a day or two if you hustle.

Yours for a pony,

The Pony Man

FARM AND FIRESIDE • SPRINGFIELD, OHIO

Cut This Coupon Out To-day!

Fill Out and Mail to the Pony Man

April 10th.

Dear Pony Man:—

I want to get a pony. Please write me by return mail, telling me how I can get one, and send me all the pony pictures, the other pictures, and full information, without cost to me.

Name .....

St or R. R. .....

Town .....

Date..... State.....

Practical Farm Notes

The Farmer and the Telephone

New inventions that increase the usefulness of farm telephones and devices that enable a farmer to circumvent an obstruction were interesting features at the electrical show that was held in Chicago in January.

Practically all of the big companies engaged in equipping farm lines had exhibits and a deal of information was obtained from their men in charge.

In hundreds of instances no longer is a farmer satisfied with a telephone in his house; he has a telephone system that connects up his entire farm. Some of the best-equipped exchanges are found on farms, different parts being connected up by a number of wires.

The farmer who numbers his acres by at least four figures, or who has small farms in different sections of the same county, is now able to talk with foremen at any of them without leaving his private farm home. If he has a big tract of land on which a force of men will be employed for several days, he makes use of a portable telephone that enables him to reach the farmhouse at any time he desires such communication. A portion of such distant farm being on a line of wires, a "jack" is attached to a pole and connection made with the wire that connects his house or an exchange that will give him the connection. An insulated cord is unreeled from a small combined transmitter and receiver. The whole contrivance isn't much larger than an ordinary camera. A plug on the end of the cord is inscrted in the jack on the pole, and the farmer or his man soon has connection with the house. The jack is left on the pole, it is impervious to the weather and the cost is slight. This is but one of many uses that the telephone subscriber may make of a jack or a number of them.

Then there is a new metal box that may be located at any isolated place. The entire box is of solid metal with a metal door to be locked when not in use. The door has a rubber packing that prevents any dampness from reaching the inside of the box, which is equipped with a receiver, transmitter and ringing apparatus.

Modern Appliances Supplant the Old

The new appliances and modern ways of establishing and maintaining farm telephone lines have driven out the old plan of connecting up big ranches by the use of barb-wire fences. At one time a large number of farms were so connected. One big ranch in Texas had a circuit of one hundred and fifty miles, the whole of which was operated by the use of the wires of the fences that enclosed the land. The big farms in Montana, Utah and Idaho, most of them sheep ranches, are now wired and connected by the most complete telephone systems operated by a farm exchange, the wires being well elevated from the ground. The plan of employing fences constantly was subject to induction, and the bending of a damp brush on a fence frequently was the cause of a break.

It is claimed that the average cost of a farm telephone is now about one dollar and twenty-five cents a month, or fifteen dollars a year. There are thousands of instances where a farmer in getting market quotations over his wire has in a single use of it made its cost for an entire year.

The independent lines have now reached the enormous number of nearly four and a half million telephones and twenty-one thousand exchanges in the United States. A single one of the farm-equipping concerns claims to have put in over one million telephones and seven thousand exchanges, including the town and city phones.

It is said that Iowa is the greatest state in the Union in the matter of telephone equipment. It is told that there are three counties in that state in which there isn't a building of any importance that may not be reached by telephone service. J. L. Graff.

Southern Farming

Farm and Fireside:—

I have read a great deal in different farm journals and agricultural papers; I have attended farmers' institutes held by men sent out by the state board of agriculture; I get the bulletins of the State Department of Agriculture, and in all these I have learned something that would be very helpful to any one who is able to take the advice given.

But in all these the idea of intensive farming and stock raising prevails to such an extent that there is very little left for the man whose land is not adapted to intensive farming or whose capital is small.

The little one-horse farmer who lives on a sand hill, and who needs help, if anybody does, is left to do the best he can "under the circumstances," without a hint of how to improve the circumstance.

Perhaps Western farmers do not understand the conditions down in this part of "the Sunny South," so I will proceed to tell just a little. We have been farming about as follows:

Mr. A. wishes to make a crop this year, but last year he planted the principal part of his crop in cotton, and it was an unfavorable season; consequently he has nothing, or at least very little, to "run on" while he works his crop. He feared that this would be the case when he was putting in so much cotton last year; but the previous year he had not made enough, and "the bay mule had to be paid for," and there was a large fertilizer bill to meet, so he didn't know what else to do.

The Situation in the Southland

Now there is nothing left for him to do but to go to Mr. B., the merchant who "runs" people on crop time, take his pen and write "On October 15, 19—, I promise to pay," etc., secure it by a mortgage on —acres of cotton, etc., and go home and work for Mr. B. again this summer. Now some of Mr. B.'s customers will fail to pay him next fall, so the only chance for him to make himself safe is to charge his good customers enough to make up what he loses on his bad ones. So Mr. A. has to pay twenty-seven dollars a ton for guano that he could buy in Wilmington or some other place for twenty dollars if he had the cash. He pays twelve and one half to thirteen cents a pound for white meat when if he had the cash Mr. C. down the road would sell it to him for ten cents, and so it is through the whole catalogue of supplies.

The result is that when fall comes he is no better off financially, his land is poorer, he has not raised his home supplies, and must go the same route again.

He has been told, "raise stock;" but he has no timber to make fences and no money to buy wire, and cannot raise stock without fences. Besides, his stock must have something to eat, and he can't feed them on cotton stalks. He has been told to "rotate" his crops and to plant cow peas, clover, etc.; but he must plant cotton, because he has "promised to pay" and must try to do it.

Of course there are exceptions to this, but this class is in the majority. We have a few successful farmers down here, but they are those who are able to run their own business and who are not obliged to plant any particular crop.

Will you please give a few practical suggestions for this class of farmers, for their name is legion?

Remember, they are men with poor land, no stock except a team, no money, no fences, no timber. They are men of intelligence, who could, if they once got out of the rut and got a little capital to start with, raise stock, improve their farms, increase their crops and at the same time reduce the cost of living. But the question is, "How shall we get out of the old rut?"

North Carolina. James A. Gooden.

This is as interesting a letter as I have read in many a day, one which appeals to my sympathy, for I think I know how to appreciate the situation, in part at least, as many of us do who have been and still are hampered in our work for lack of capital with which to carry it on.

The Credit System in the North

We are not burdened with just such a credit system in the North, but we are constantly paying higher prices for our supplies than we should, because we must buy on credit or in small quantities, when we ought to buy for cash in large quantities at the most favorable season, which is usually not the time when the article is most wanted. Then, too, we are obliged to run our farm factories at far less than their full capacities for lack of working capital to carry on these factories. Were we sure of our ground, sure of our own ability, of our conditions and of the future, it would be far better to incur a heavy debt to properly equip our farms and provide them with a reasonable amount of working capital, than to struggle along as we so often do. Our instinctive dread of debt and the evil results which sometimes follow in its train prevent us from doing this. Often it would be far better to sell off half the farm, if that were possible, and properly equip the rest, than to continue on as we do.

Mr. Gooden hits a great truth when he incidentally says that not all land is adapted to intensive farming and not all men have capital enough with which to carry it on. We have heard so much of intensive farming that we have almost been led to believe this the only type worth considering. Yet intensive farming demands good land. Much land is wholly unsuited to this type of management. It further demands a liberal amount of working capital, just what so many farmers lack.

Borrow Money Outright and Down the Credit System

It seems to me that the first thing I would do if placed in such a position, where I must work on borrowed capital, would be to hunt for a man who would lend me the money outright at a reasonable rate of interest, and I would look far and long before giving up the search. If I found the man and the money, I would deposit the money in the bank and pay spot cash for all my supplies, and make that fact count for every cent possible in the price paid. I have heard from men of the South that the opportunity to borrow money in this way is one of its greatest needs, and this may be the hardest problem to meet.

Then it seems to me that about the next thing to do would be to sit down with pencil and paper and wrestle with that problem as the hardest and most important "sum" in arithmetic, which I ever struck. I should want to know first the average and probable price of all the leading products which my farm might be made to turn off, such as meat, milk, eggs, hay, corn, strawberries, etc. as well as cotton.

Then I should want to consider carefully the cost of marketing each of these things, because the man located near the market may find profit in hay, potatoes or other heavy or bulky products which the man at a distance should not grow, because the cost of getting them to market takes too great a percentage of the selling price.

With the probable selling price, after deducting cost of marketing, in hand, I should want to study as carefully as possible into the probable cost of production. With all these facts in hand I think I could begin to eliminate the things least suited to my needs, and gradually settle down to the most promising lines.

This is not a problem to be solved in a day or a week. There is material in it for a good winter's work at least, and even then experience may modify the solution. I should not attempt too many things, for the man who succeeds best is usually the man who concentrates along two or three well-chosen lines which fit well together.

Be Not Afraid of Small Beginnings

Having once settled this problem and fully fixed in my own mind the lines which it would be best to follow, I should bend every energy toward getting a start in those lines, and try not to be discouraged because I had to begin in a small way. If poultry and eggs proved to be one of those promising lines, I would get together some packing boxes, or something of the sort from which I could improvise coops, and make whatever start I could in the raising of chickens, and try to take from the cotton field enough land to produce their feed. If swine were one of the things decided on, I would do my best to get hold of a good brood sow already bred, or a pair of young pigs. I would improvise some sort of shelter for them from packing boxes, or poles and straw, or cotton stalks. If I could not buy enough fence to provide them with suitable pasture, I would at least try to get a few rods, enough to make a reasonable-sized yard, then move it from time to time, to insure plenty of pasture on cow peas or whatever seemed to promise best results for my climate. I would try to grow them on cheap, home-grown feed just so far as possible.

If dairy products promised best, I would at least try to get one heifer calf old enough to wean, and stake her out for pasture. If strawberries were a chosen line, I would at least try to spare three dollars from that cotton fund with which to buy a thousand plants and make a start. That seven dollars saved on one ton of guano by hiring the money outright and paying spot cash would more than do it.

In spite of this discouraging picture, it does seem to me that in some such ways as these the farmer of intelligence can make a start on the road which will lead out from this slough of despond.

Fred W. Card.

Marlin

The safety, comfort and convenience of the Marlin solid top, closed-in breech and side ejection features are combined with the quick, easy manipulation of the popular sliding fore-end or "pump" action in the new Model 20 Marlin rifle.

In rapid firing—the real test of a repeater—the Marlin solid top is always a protection and prevents smoke and gases blowing back; the ejected shell is never thrown into your face or eyes, and never interferes with the aim; the fat forearm fits your hand and helps quick operation.

It handles the short, long and long-rifle cartridges without change in adjustment, and the deep Ballard rifling guarantees the accuracy, making it the finest little rifle in the world for target shooting and for all small game up to 150 or 200 yards.

THE SIGN OF A Marlin

For full description of all Marlin Repeaters, just get our 136-page catalog. Mailed free for 3 stamps postage.

The Marlin Firearms Co.,
141 Willow Street, NEW HAVEN, CONN.

Western Canada the Pennant Winner
"The Last Best West"

The Government of Canada now gives to every Actual Settler 160 Acres of Wheat-Growing Land FREE and an additional 160 acres at only $3.00 an acre.

The 300,000 contented American settlers making their homes in

Western Canada

give the best evidence of the superiority of that country. They are becoming rich, growing from 25 to 50 bushels wheat to the acre, 60 to 110 bushels oats and 45 to 60 bushels barley, besides having splendid herds of cattle raised on the prairie grass. Dairying is an important industry.

The crop of 1908 still keeps Western Canada in the lead. The world will soon look to it as its food-producer.

"The thing which most impressed us was the magnitude of the country that is available for agricultural purposes."—National Editorial Correspondence, 1908.

Low Railway Rates, good schools and churches, markets convenient, prices the highest, climate perfect. Lands are for sale by Railway and Land Companies. Descriptive pamphlets and maps sent free. For Railway Rates and other information apply to Sup't of Immigration, Ottawa, Canada, or to the authorized Canadian Government Agt.

H. M. Williams, 413 Gardner Bldg., Toledo, O.; J. O. Duncan, Room 30, Syracuse Savings Bank Bldg., Syracuse, N.Y.

SUNNY Florida

FARMS.

Why not locate in Manatee County, (West Coast)? Ten acres net as much as a hundred in Northern States. Delightful climate, abundant rainfall, convenient markets.

VEGETABLES NET $1000 ACRE.

Outdoor work the year round, several crops a season. Lands reasonable. Write for full information.

J. W. WHITE,
General Indl. Agent,
Seaboard Air Line,
Dept. HB,
Portsmouth, Va.

ALBERTA LANDS
SASKATCHEWAN LANDS

We have thousands of acres first selected and choice farm lands located close to New Grand Trunk Pacific and Canadian Northern Railways. Wholesale and retail propositions. Improved and wild lands in Manitoba. Prices right. Terms easy. Write us for what you want. Pamphlets and maps mailed on application. Active and reliable Agents wanted.

STEWART & MATHEWS CO. (Ltd.)
305 Jackson St. St. Paul, Minn.

LAND in best district of Canada, prairie, near new railway, timbered homesteads, free maps, address SCANDINAVIAN - CANADIAN LAND CO., 172 Washington St., CHICAGO

SUBSCRIPTION PRICE

One Year (24 numbers) . . . . 35 cents
Four Years (96 numbers) $1.00
Canadian Subscriptions . { 1 Year, 60 cents / 4 Years, $2.00

Entered at the Post Office at Springfield, Ohio, as Second-Class Mail Matter.

Subscriptions and all editorial letters should be sent to the offices at Springfield, Ohio, and letters for the Editor should be marked "Editor."

The date on the address label shows the time to which each subscriber has paid.

Subscribers receive this paper twice a month, which is twice as often as most other National farm journals are issued.

Silver, when sent through the mails, should be carefully wrapped in cloth or strong paper, so as not to wear a hole through the envelope.

When renewing your subscription, please say it is a renewal, and if possible send the label from a recent copy. If all our subscribers will do this a great deal of trouble will be avoided.

PUBLISHED BY
THE CROWELL PUBLISHING COMPANY
SPRINGFIELD, OHIO
Branch Offices: 11 East 24th Street, New York City.
Tribune Building, Chicago, Ill.
Copyright, 1909, by The Crowell Publishing Company

ABOUT ADVERTISING

FARM AND FIRESIDE does not print advertisements generally known as "readers" in its editorial or news columns.

Mention FARM AND FIRESIDE when you write to our advertisers, and we guarantee you fair and square treatment.

Of course we do not undertake to adjust petty differences between subscribers and honest advertisers, but if any advertiser in this paper should defraud a subscriber, we stand ready to make good the loss incurred, provided we are notified within thirty days after the transaction.

FARM AND FIRESIDE is published on the 10th and 25th of each month. Copy for advertisements should be received twenty-five days in advance of publication date. $2.00 per agate line for both editions; $1.00 per agate line for the eastern or western edition singly. Eight words to the line, fourteen lines to the inch. Width of columns 2¼ inches, length of columns two hundred lines. 5% discount for cash with order. Three lines is smallest space accepted.

Letters regarding advertising should be sent to the New York address.

The Spirit of Spring

Fair Spring! Whose simplest promise more delights
Than all their largest wealth, and through the heart
Each joy and new-born hope
With softest influence breathes.

The poets read Nature aright. Man is a part of Nature and always under her influence.

Let us take a homely and present illustration of the sweet influence of spring. How many tens of thousands of farmers have looked all winter long on acres and acres of fall-sown wheat with feelings of discouragement alternating with forlorn hopes about the coming harvest. Yet when the time came this spring for them to realize the worst—that the winter-wheat crop was almost a complete failure, that it was in the poorest condition of all the seasons for more than a quarter of a century past—did they give up in despair?

The spirit of spring well mixed with American "sand" drove away discouragement and despondency. All have gone to work with new-born hope preparing those fields of failure in wheat for corn and oats and other spring-sown crops. The delights of the simplest promise of the spring and the just hopes for other harvests overshadow the failures behind them.

Fled now the sullen murmurs of the North,
The splendid raiment of the Spring peeps forth,
His universal green and the clear sky
Delight still more and more the gazing eye.

Let us turn for a moment from poetical truth to

A Practical Object Lesson

It can be found in the failure of winter wheat. Here and there are fields of fine promise among fields of complete failure. Now the business farmer will find out why. If it is one of his own fields, he can readily compare its conditions of preparation and seeding with those of the failed fields around it, and draw his own conclusions. If the field belongs to a neighbor, he can easily make a few inquiries about the methods used, and learn the causes of success. There may be, of course, special reasons for success in particular fields, but there is one general cause for the good fields of wheat found here and there, and that is the conservation of soil moisture. Last fall there was a phenomenal drought throughout a large part of the winter-wheat belt. Most fields were plowed, prepared and seeded under extremely unfavorable conditions of soil moisture, with the idea that the later rains would save the crop. Some of the seed sprouted and made a feeble growth, some of it malted and some of it failed to sprout. Now when we come to investigate the good fields, the exceptions that offer such a striking contrast, we find that as a rule they were plowed early, when there was an abundance of moisture in the soil, and that the early and proper preparation of the seed bed for wheat conserved that soil moisture. Consequently, when the wheat was sown there was sufficient soil moisture for its growth. In other words, wherever in the drought-stricken districts there was an application last summer of the Campbell system of soil culture, there is now a fine promise for an abundant wheat harvest. Let us learn this lesson by heart.

The Application

The immediate application of this object lesson is to corn culture. The average summer rainfall in the corn belt is not sufficient for the growth of a maximum corn crop. It is, therefore, of the utmost importance that the water stored up in the soil from the winter and spring rains be conserved by proper soil culture for the making of a bumper corn crop. Whenever necessary, let the harrow promptly follow the plow and make the fine earth mulch.

The spirit of spring now gives us full faith, but we must furnish an abundance of good works.

The Clouds consign their treasures to the fields,
And, softly shaking on the dimpled pool,
Prelusive drops, let all their moisture flow
In large effusion, o'er the freshen'd world.

A Hopeful Decision

LAST month the Interstate Commerce Commission gave a decision in the case brought by the Milwaukee Chamber of Commerce against the Rock Island Railroad in which some broad principles of wide application and of the utmost importance were clearly set forth.

The complaint of the Chamber of Commerce was that by juggling through-freight rates from northwestern points to Chicago the railroad was diverting all shipments of grain and other farm products from Milwaukee to Chicago. In its answer the railroad contended that it had the right to manipulate rates so as to send the traffic to Chicago, because that market was just as good as Milwaukee, and the shippers therefore suffered no loss. The decision of the commission was squarely against this contention, and consequently against all such discriminations between different communities now commonly made by railroads. It states:

> "In claiming that as Chicago affords as good a market for grain as does Milwaukee, the principal defendant may therefore lawfully so adjust its rate schedules as to force the grain to Chicago, the defendant overlooks the right of the shipper to choose his own market and to do business where he prefers or finds it more advantageous to carry it on.
>
> "It also overlooks the chief function of a common carrier, which is to carry at reasonable rates the traffic that is tendered to it.
>
> "A carrier has no right to insist that a shipment shall go to the end of its rails if the shipper desires it to be diverted at an intermediate point to another market off its rails.
>
> "Nor may a carrier accomplish these results indirectly by any unreasonable adjustment of its rate schedules with that end in view. It cannot lawfully compel the shipping public to contribute to its revenues on any such grounds."

Are Your Rates Right?

Under the practise of discrimination in freight rates forbidden by this decision it is within the power of a very few men now in control of all the great transportation lines of the country to make or break the trade, commerce and business of any community. It is a notorious fact that some of the greatest markets in the United States are now maintained on an artificial basis by railroad discrimination. And there is hardly a farming community that is not affected by unjust discrimination in freight rates.

To illustrate the effect of this discrimination on agriculture, let us take an example of grain rates. It is quite common to find a difference of five cents a bushel in the price of wheat between two shipping points near each other and the same distance from the general market. On a yield of twenty bushels of wheat to the acre this arbitrary discrimination of five cents a bushel makes a difference of one dollar in the returns from one acre—a dollar out of the net profits, mind you. Now this one dollar an acre less profit means that the farm in one locality is worth sixteen and two thirds dollars less an acre than in the other locality, counting interest at six per cent. This is by no means an extreme illustration of the difference in farm values made by unjust discrimination in railroad rates.

This decision is a most hopeful one for the future welfare of the country, both in a general way and in its direct and immediate application to similar complaints of unjust rates affecting some of the largest cities in the Union. It is now in order for every city and for every farming community to investigate thoroughly their railroad rates to the general markets, and if they find unjust discriminations, to make formal complaint to the Interstate Commerce Commission. The commission acts on complaint; it does not undertake to go into each community and investigate local conditions. Communities, therefore, must help themselves by first finding out if they have just cause for action, and then making formal complaint. Cities like Milwaukee and Philadelphia make these complaints because their business men clearly see how their great trade is seriously affected by railroad discrimination, but there are small cities and farming communities everywhere that are injured relatively far more than these large cities.

Back Talk to Lewis

Letters From Readers

EDITOR OF FARM AND FIRESIDE:—

I agree with O. E. Ritter. Cut out your political page and give a remedy for "punkin" bugs. We farmers take our political papers and get all the politics we want; we take farm papers for farm information.

Indiana. GEO. H. CRAIG.

EDITOR OF FARM AND FIRESIDE:—

My vote is: Please *don't* take "Politics" out of the FARM AND FIRESIDE. Yes, we have politics in the newspapers, politics for the party. In FARM AND FIRESIDE we have politics for the people—Tom Jones, Bill Smith and such common people as the undersigned.

Oklahoma. N. S. SWEET.

EDITOR OF FARM AND FIRESIDE:—

In several issues I have noticed criticisms on Mr. Lewis for his political views, and on your valuable paper for publishing them in connection with agricultural interests. The one great trouble with the rural people is that they don't get enough of Mr. Lewis' kind of politics. He strikes at the root of things in general, with no ax to grind, consequently he can give us the truth, which it is impossible to get from a local or national partizan press.

So long as the people are kept in ignorance of the workings of the political machine, we will have machine politics. If the agricultural press had more writers of Mr. Lewis' stamp, all the good things recommended by the Country Life Commission would be a reality.

With the people intelligently informed, as he informs them, they would not be long in applying the remedy.

FARM AND FIRESIDE is the equal of many papers which cost four times as much.

Ohio. H. A. MANGOLD.

EDITOR OF FARM AND FIRESIDE:—

I have been a reader of FARM AND FIRESIDE for some time, and have enjoyed very much its different departments. I believe the paper is continuing to grow better and it appears that each succeeding number should better meet the demands of the people. It seems to me, if there is any class of people that should be informed not only concerning farm matters directly, but concerning anything that pertains thereto, it should be the farming class. I believe that the best farmer is the one who has the widest range of information. There is scarcely any business or profession but has a bearing upon farm matters. For this reason I heartily indorse the department of "Politics" in the FARM AND FIRESIDE conducted by Mr. Lewis.

We can never learn too much about our government. Let us not think that a farmer need have no information except such as pertains directly to his farm.

West Virginia. ELMER MCMILLION.

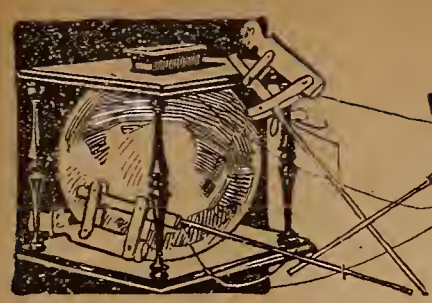
EDITOR OF FARM AND FIRESIDE:—

I have been reading Mr. Lewis' Politics in your paper of February 10th, in which he talks on the subject of direct nominations, and I would like to say a few words on the same subject. He seems to think that "Direct Nominations" would be a panacea for all political troubles, and by it we could be freed from the dominion of the "bosses." Well, we "poor herring" up in this corner of creation (Minnesota) have broken away from conventions and adopted the plan of direct nominations. And now we can nominate whom we please. That is, we can take our choice of the candidates who have already nominated themselves.

We may not like any of them, but they have *filed* and paid in their money, so their names are on the tickets, and we have to vote for them or not at all. A large part of the *dear people* know nothing about these candidates, and afterward we are liable to find out that we have elected the smallest and smokiest "herring" of the lot.

Now the question is this: By which method can we get the best man for the office. By selecting from the candidates nominated by delegate conventions, or by selecting from those who have nominated themselves?

Minnesota. B. F. SNOW.



Politics

By Alfred Henry Lewis

If you don't agree with Mr. Lewis, "talk back" to him, confining your reply to two hundred words. We shall hope to publish some of these replies from time to time.—THE EDITOR.

IT IS MY MISSION to make trouble for statesmen, do good to mankind. Wherefore, I have advised, and again advise, you to write letters to your congressman demanding things. Nothing so moves a statesman as a letter. A well-directed missive of power and point will start the sweat on a statesman as profoundly as stacking hay on a July day with two stout, active gentlemen pitching off the load.

What follows is meant to serve as suggestion. Read it and write to your congressman to be against stock gambling. You might, too, while you are about it, tell him that you favor the country issuing its own money and doing its own banking.

Come to think of it, this is not so much politics as stock gambling. Over in Washington, before the House Agricultural Committee, certain honest influences have been trying to break the back of the bucket-shop game. Also, they have failed. The same crusade has failed before in the defeated instance of Hatch's Anti-option Bill. It will continue to fail until you and I and all of us wake up.

There are about one thousand brokers who "have seats" and are entitled to go upon the floor of the New York Stock Exchange to "buy" and "sell" for their clients. There will be three hundred millions of shares bought and sold in the exchange during this year. The commissions to brokers on these transactions will be seventy-five million dollars—an average of seventy-five thousand dollars to each. The commission is twelve and one half dollars for a hundred shares. Each transaction means two commissions—one for him who sells, one for him who buys. Thus the aggregate commission is really twenty-five dollars every one hundred shares. A "seat" in the New York Stock Exchange would be cheap to-day at eighty thousand dollars. Twelve years or less ago a "seat" brought sixteen thousand dollars. The value of this franchise has multiplied fivefold in twice as many years. The population of the country has witnessed no such increase, but the practise of stock gambling has.

Stock gamblers, who do not like to be called gamblers, urge that stock gambling isn't gambling, but business. This is a lie. If every one of those stock sales, which mount into an annual aggregate of three hundred million shares, was in good faith, and actual shares were parted with and purchased, the whole world would every year change hands. Ninety-nine per cent of all that occurs on the floor of the stock exchange is merest gambling, and meant to be so.

Of those who as small gamblers—being those amateurs of the game called "Lambs"—attempt for any length of time the stock market, the huge majority are ruined outright. It isn't the game that devours the player, it is the commissions and interest charges which —mercilessly voracious—swallow him up in the end. Any one curious on these points should, of an active afternoon, stroll into Broad Street. There he will meet scores of human wrecks, respectable folk of fortune when time was, who, ruined by stocks, now haunt the scene of their undoing, to gabble and chatter of millions with never enough silver in their pockets to keep the fiends from dancing there.

* * *

WHO DOES WIN IN STOCK GAMBLING? The multitude being eaten up, who are those fortunate vultures to be fattened thereby?

In the good old days, robber barons built high stone castles, drew about them their retainers, and besides plundering a helpless peasantry—the "Lambs" of their period—carried on pillaging forays against one another. Our great stock gamblers, men of big money and small souls, imitate those robber knights of old. They build camps of speculation—videlicit, corporations—and for their rapine they use dollars rather than cutthroat men at arms.

Our money barons move in many pernicious ways. They possess themselves of politics, and elect legislators, governors, mayors, councilmen, congressmen, judges, even presidents. The Roosevelt day was the first since the rule of the silent Grant when predatory money didn't have a pass key to the White House.

Seizing through politics on all of the big and little machinery of state, these robber money chiefs become the recipients of what franchises the public has to throw away. Laws are passed at their command; court decisions are rendered to suit their vicious convenience. If any free untainted man lifts up the voice of protest, he is dubbed "Anarchist!" by a subsidized press.

In addition to franchises granted and the passage of trust-hatching laws, tariffs are arranged, subsidies declared, and public contracts entered into so as to assist these land pirates in their pillage of the people. Mere government, in its least or largest detail, is made to cost fourfold what it should, with every dollar of the black excess flowing into the illicit pockets of our money barons.

Having made conquest of what monopolies and quasi monopolies are possible under a "free" government—which is frequently least "free," in fact—all might yet be publicly well if our robber rulers carried those monopolies on for what enormous though natural profits accrue therefrom. Since, however, stock gambling rather than for example to run a railroad is their true purpose, they never do this. Your railroad as a railroad, with its resultant profits for hauling freight and passengers, is altogether second fiddle. The great thing is to get its stock into the stock exchange to gamble with. The big money isn't made with the railroad as a railroad, but in the daily gambling game which is played with its stock as the tools.

The same is true of companies not railroads. And in every instance, since the stock gamblers produce nothing, one way or another a toiling public is inevitably fathered with the loss. Prices of commodities are raised. In the case of railroads, rates—passenger and freight—are increased. It all comes out of the guileless popular pocket in the finish.

* * *

IN WORKING OUT THEIR SORDID DESTINIES to safe and paying conclusions, when our robber money barons establish one of their corporation camps for stock gambling they establish also a bank. The bank thus established bears the relation to the camp for stock gambling that a magazine bears to a fortress. But with this difference: In the old days the robber barons must equip their own magazines. Under the present system a purblind public, to be presently plundered, does the work. The public brings its sweat-won money to the banks, and contributes to its own fleecing by providing the shears.

Rockefeller's Standard Oil stock camp has its National City bank. The National City is the Rockefeller-Standard Oil magazine. There is enough money powder ever on hand in that bank, most of it the public's, to blow stocks to flinders at a Rockefeller nod.

To save themselves against the Rockefeller forces, as well as against each other, the Ryan and the Harriman and the Morgan knots of stock barons having their corporation camps of speculation, have also their bank magazines, each organized and equipped on National City lines.

* * *

WHAT HARM HAS COME from stock gambling?

Within the memory of man it has produced the Fisk-Gould gold corner and a consequent Black Friday, the Jay Cooke one-hundred-day panic, the Gould corner of Chicago and Northwestern, the Anthracite corner and collapse of Jersey Central, the Grand-Ward failures, the White corner, the downfall of the Barings. In all and each, thousands who had never thought of stock gambling were destroyed beneath falling banks, buried in the overthrow of institutions wherein they but figured modestly as legitimate investors.

This is not all. Consider Washington: I myself have seen a tariff pulled and hauled at for months on end, with a main purpose of sending Sugar and similar stocks first up, then down, then up—like so many elevators. And each time carrying a hopeful freight of "statesmen" to their fortunes. I've seen England defied to smash a "market," an extra session called to send one kiting. The people's vast prospects have been juggled hither and yon to the merest end that stocks be milked. I've heard a shout that the country's credit was sinking. There was not a cloud in the sky, not a ripple on the surface of the sea. And yet nothing could save us—so the false powers that were declared —but throwing overboard million upon millions of bonds. And the criminal jettison began. Bonds worth 119 went over the side at a cheerful 103¾. The ring made thirty millions on the very threshold of the outrage.

Why bonds? Aside from those primary venal threshold thirty millions, the stock barons needed them as a foundation for those magazine banks. Those bonds were required in the field of stock pillage. Worst of all—a sentimental disaster truly, but it cut like the stroke of a whip!—the occasion was seized upon by a chief magistrate, devoid of any sense of humor, to describe a certain little, fantastic Belmont as "protecting the credit of the nation." Which was as though some flea had been proclaimed protector of what honest Newfoundland it infested.

* * *

IN WHAT DID STOCK GAMBLING have its start?

In the days of William of Orange there lived a Mr. Paterson, Scotchman and pirate. An hour dawned when ocean loot ran low, and buccaneering did not pay. Thereupon Pirate Paterson gave up his marine highwayisms, came ashore, and invented the Bank of England. Pirate Paterson submitted his plan to Charles Montague. The Bank of England was reared, with "Mouse" Montague its pretended architect. In lame and insufficient recognition of its real parent, Pirate Paterson was given a seat on the board of directors. He was subsequently removed by Walpole and the others, Montague consenting.

Being cast out, Pirate Paterson retired to the Tweed's north bank and begat stock gambling. No longer of the Bank of England, Pirate Paterson remembered seas and shores familiar in his more innocent, buccaneering days. Pondering those seas and shores, he originated the "Darien Scheme." The project took shape as a stock company; and although it fell finally through, and Pirate Paterson died bedlam mad, the pike-like eagerness with which the shares were snapped up in Edinburgh and London taught the observant avarice of that day a lesson, and inspired Blunt in England and Law in France to bring forth respectively their "South Sea" and "Mississippi" bubbles.

* * *

IT WAS IN THESE TWO PROJECTS, conceived in fallacy and brought forth in corruption, that stock gambling had its start. Nor since then have methods found a change. These rainbow, get-rich-quick promises, which form the alluring bait of to-day, are merest parodies of the promises made by Law in France, and his South Sea brethren of England. Law promised investors one hundred and twenty per cent; his brethren north of the channel were in their promises equally roseate. Law's Mississippi shares sold for thirty times their face before the crash came. South Sea, more moderate—since the English, while as great fools, are not so hopefully mercurial as are the French—soared to no more than twelvefold its face.

Something of the fever of speculation, which at that time fired the popular blood, may be guessed at when one reflects that more than one half million of people dealt in Law's Mississippi shares. There had been no official count of noses, such as the modern census, but economists assume that France, under the Regent, possessed thirty millions of population. If this be true, one in sixty of all France, counting prince and pauper, the babe in the cradle, the grandmother fidgeting about on her crutched canes, yielded to the fascination of that new gambling. There was quite as daunting a percentage of fortune seekers among England's South Sea shares.

Also, both cliques bribed the public's officials to help in corrupting the citizens, and both as wholesale robberies left wholesale ruin in their wakes. There was in each instance the usual harvest of defalcations, bankruptcies, murders, lunacies, suicides.

Since those wild bubble days of South Sea and Mississippi, every fresh discovery, every new invention, has been swooped upon by the stock harpies. Steamboats, railroads, telegraphs, telephones, have had and are still having their turns. All things are fish that come to the stock-gambling set, and there is naught so sacred, nothing so profane, and it should be added nothing so preposterous, but some one in Broad Street stands ready to sell "puts" and "calls" upon it.

At Monte Carlo they hold pigeon shoots. The pigeons to feed the traps are kept in dove cotes. Now and then some blunderer misses, and the pigeon goes unscathed. One might suppose that it would take advantage of its luck, and fly away. It never does. It flies back to that dove-cote prison, to become the victim of another slaughter day. So with the public. Will it never learn the deadly lesson of the Bourse, but remain to the last the eager, willing, insistent victim of stock slaughter?

The Soul of Honour

By Lady Troubridge

See page 31 for synopsis of preceding chapters

CHAPTER XVI.—CONTINUED

"No."

So it was all for nothing, that hideous lie, and yet she dared not take it back, not even when his arms stole around her and he drew her to his heart.

"My love," he said gently and pitifully, "you are not trusting me, you are not fulfilling those words of yours to me under the stars. You are keeping something back from me. No—don't speak." He touched her lips with his hand. "I cannot hear it again, that want of truth in the voice I love, but wait, think—I remember—I do not doubt lightly when I love so deeply, but, Honour, I must have truth if our love is to be the living exquisite thing which is all we either of us could tolerate. I must have truth in small things and great. Take time, my darling, and then come to me again, and show me all your heart, for, believe me, nothing short of this will satisfy me."

He put her gently away, and she broke from him weeping.

Already the shadow of that evil man had come between them.

After this scene he ignored the whole concern, relegated it with that splendid self-control of his to the background of his thoughts, and apparently occupied himself with preparations for his shooting party. Honour's invitations were at once accepted. Lord Vannister's hasty marriage had caused comment and some disapproval, but he was too great a man not to be privileged to be eccentric, and a wave of curiosity had swept over the county which was now at length to be gratified. The party was to be a small one, consisting of two or three local big-wigs, a Lord and Lady Merrincourt heading the list. He was Lord Lieutenant of the County and a man of property equal to his eccentric neighbor's. He was also useful and public spirited in a somewhat narrow and pompous fashion. His wife was the type of aristocratic respectability, one of those many women who are the backbone of England. Her thoughts began and ended with her husband, her home and the duties of her position. To her mind her husband was that great man, that embodiment of patriotism and genius, for whom England had long been waiting, and she was filled with wonder that his remarkable abilities were not more generally recognized.

She loved the country and detested London, but she made a yearly pilgrimage to the capital, and presented a daughter annually to her sovereign. They were plain-looking girls, as much like each other as peas in a pod, and as simple at twenty-four and five as differently brought up girls at twelve and fourteen. This party afforded a striking contrast to the Windermeres, and Lady Merrincourt, who knew Lady Windermere by name only till then, shrank back into her shell at the flow of restless talk which the other scattered around her, and looked with hidden disapproval at the magnificent clothes and air of worldliness which enveloped the gushing lady. Hyacinth, too, came in for a share of this disapproval, although her manners, though sparkling, were perfect, yet her exquisite clothes and dainty jewels offended Lady Merrincourt's old-fashioned ideas. They were fitted for a young married woman, she reflected, on that first afternoon at the tea hour, which assembled them all in the great hall, and her eye wandered from the dainty figure, with its crown of golden hair and wild-rose complexion, clothed in garments suitable indeed, for Hyacinth wore a dark violet tweed, fashionably made, unlike her own girls in their country-made skirts, which by contrast seemed to fit clumsily around their broad, flat waists.

Each girl, Hyacinth included, wore a shirt waist, but volumes might be written on the difference in that wonderful garment, the blouse which came to us from the brain of a Parisian designer and which we have made our own. All three shirt waists were simple, but Hyacinth's was made of finest muslin, and it fitted her to perfection, circling her dainty throat and clinging to her sloping shoulders and pretty arms as the petal clings to the flower, while the creations by the village dressmaker worn by the Misses Merrincourt seemed to accentuate each fault of the figures they covered.

Even the mother's partial eye saw the difference, and it annoyed her, and gave rise to the vague air of aloof disapproval that she wore. She was not the only one suffering in that first hour, for a stiffness hung over them all, a discomfort for which each had some reason.

To begin with, these sudden plunges into society are rarely successful at first, and to make a house party a real success is the work not only of the time when it actually occurs, but of the months and years preceding it, when the host and hostess have made themselves a real center in their own set.

Honour had no set, and each of the people around her had some reason for coming quite unconnected with pleasure and in many cases connected with something unpleasant.

The Windermeres came because Lady Windermere had insisted, against her husband's wishes. For his part, Lord Windermere bitterly resented the fact that he was bringing his lovely Hyacinth on approval. What right had Vannister to reserve his consent until he saw her? It was a piece of insufferable presumption, and it did not add to his sweetness of temper or to his civility to Marcus, who for his part wished himself thousands of leagues away. Self-interest, however, that potent factor in modern affairs, had brought them all, and it kept them.

A common interest also thrilled them, and that was the personality of their hostess.

"She is like a creature out of a poem," thought Lady Merrincourt as their hands clasped, "but, dear me, she does not look happy enough for a bride."

Honour had had time for a little quiet talk with the Merrincourts before the Windermeres and Marcus had arrived.

This was the moment she dreaded, and which she had brought upon herself by the championing of Hyacinth. Somehow, however, she never realized how terrible, how unnatural, it would be. She saw now, in the constraint which clouded Lord Windermere's greeting, that her suggestion, though right enough, had not been in the range of practical politics. But it was too late now.

Lady Windermere floated in, gracious and unconcerned. She fully intended to get the better of the Vannisters in the end, but it would be in her own fashion. She began by taking everything for granted.

"Hyacinth was wild to come, dear child," she said, pulling a pair of long suede gloves off her plump jeweled hands. "As naturally she would be. She was a little shy, of course, dear child, but so anxious to see you, dear Lady Vannister, and really the rest will do her good, for she has been dancing herself to death. Three balls a night—I try to be firm about refusing some, but the invitations come pouring in, and it is so difficult to select. You understand that, I am sure, Lady Merrincourt."

Lady Merrincourt smiled sourly—she was not besieged in that fashion, as Lady Windermere knew well, but nothing on earth would have made her own it.

"So many balls are very bad for young girls," she said, "and late hours spoil their complexion."

"Quite true. Quite true as a rule," purred the other, with a quick glance at the weather-beaten faces of the plain-looking daughters. "I only wish it would spoil Hyacinth's, for then perhaps I should have a chance of being obeyed—"

"Don't, mother," said Hyacinth, blushing deliciously, and her mother subsided; but she had gained her point, for Lady Merrincourt was routed.

Marcus sat a little behind his fiancée, and mostly in the shadow, only emerging now and then to hand the tea cups, and make himself useful, and Honour noticed that during the whole of the first hour the girl never once spoke to him. Did she love him? Was it only a girlish shyness which held her, or was there something behind it. Anyhow, Honour realized that neither of them should have been here, and certainly Marcus should never have been allowed to come back until Vannister knew their secret. Still her promise held her, and the thought of her lie weighed down her soul.

For her happiness was gone, gone as completely as the roses of summer. Sometimes she thought with a sick fear that it had gone never to come back. That was when she remembered that it had taken him twenty years to forgive another lie uttered by other lips. Ah! why had she trifled with that stern, strong nature, that unbending will? Heedless of the voices around her she lost herself in a maze of misery.

The slamming of the hall door recalled her to her senses. Some one else was arriving. She looked mutely at her husband for instructions, for she was new to this hostess work.

"Your friend Taunton has come," he said, and he smiled in almost the old fond way. "I kept it as a little surprise for you; I thought you would be glad."

Glad, what words could express her gladness as she heard again those strong, hearty, ringing, honest tones that seemed to bring help and comfort with them. Once before when despair had clutched her with its cold hand those honest tones had brought comfort, and so they did now. Taunton knew everything. He would help her—he would advise.

She looked up and saw the eyes of the little society beauty fixed on the door. They were glowing like two blue stars, and her cheeks were crimson. What with the flaming joy signals in her cheeks and the radiance of her bright hair, she looked to Honour in that moment truly adorable, all rose and pearl and gold, a little fairy princess wakened to life by the coming of the fairy prince.

Suddenly Honour remembered disjointed words of Taunton's which had passed unheeded in her own great sorrow, and began to unravel the riddle and to guess at further complications, for Lady Windermere's suave manner vanished as if by magic, and she barely extended her hand to the newcomer. Marcus and he also avoided a greeting touch which was easy in that crowd, and for one instant Hyacinth's little hand lay in his broad palm. Just one instant, but it deepened the glow in his brown cheek and paled the roses in hers.

Then he was smiling at Honour.

"A transformation scene," he said, in a low, genial tone. "Eh, my lady?"

"Yes, oh, yes."

"I've been the good fairy, but why that sigh?"

"Perhaps because the bad fairy is still about," she whispered back in the same tone, for already her heart was lighter in the knowledge of a friend at hand.

He glanced at Marcus, and his face clouded. "H'm," he said, "I see your meaning. Why did you let him come here?"

"It was a mistake, and it is leading to trouble, but I can't explain now."

Taunton agreed with her last words, for both Vannister and Marcus were watching him. He handed her some cakes and seized the last opportunity before a general move.

"If I've been your good fairy," he said, "will you be mine?"

"Yes, of course," said Honour, startled. "But how?"

"Contrive to let me sit by Lady Hyacinth to-night at dinner. It may be the last chance I have of speaking to her before I leave the old country."

"I will do it."

"Thank you," he said fervently, as she rose, and the party dispersed, the women climbing the great staircase to their respective rooms, and the men chatting in groups in front of the empty fireplace.

Taunton left them and sought his room, but to dream, not to dress. That little face seen across the dusky hall had aroused the old love—the old desperate longing. Surely he had been a madman to have tamely surrendered her to that hound, Quinten. She was too young, too simple to realize the baseness of such a man, and she had resented his effort to open her eyes because he had done it badly, clumsily.

Now fate and Honour had given him another chance. Should he take it or not? He decided at length that that should depend on his sweet lady herself. If the world had choked the blossom of her love with its rank and noxious undergrowth, then he would find strength to stand aside.

This being once settled he dressed quickly, and went downstairs again, and at last the moment for which Taunton was thirsting arrived, and he offered his arm to Hyacinth and followed in the wake of the others.

Neither spoke, but the man's heart was beating in great muffled thumps, and the little hand lying on his arm seemed like some white flower he longed with a wild, inexpressible louging to gather. Had she forgotten? His life hung on the answer.

In the soft light of the dining room when they were seated he met her eyes, and he trembled at something he saw there, something which gave him courage to speak.

"I asked Lady Vannister to let me be next to you," he said. "Tell me, quickly, do you mind."

"Mind," she said impulsively. "Oh, Jack, if she had said no I could not have borne it, and so, do you know, I asked her also."

"Hyacinth," he said in a very low whisper, "don't trifle with me. You know what your words mean. Life or death for me, and anyhow reality for us both. What is the future to be? Speak."

CHAPTER XVII.

TAUNTON's voice reached her ears, low, persistent, persuasive all at once, and somehow without turning her head, under her lashes in the way girls have, she saw his face, and her heart leaped up within her. Perhaps it was not too late, and the bygone weeks had taught her the hatefulness of constant companionship with a man for whom she had not a scrap of real love.

"Oh, if I could," she breathed.

"You can, you can," he urged still low and hurriedly, "if you really mean your words. Do you, child, do you? This is the wrong time and the wrong place to ask you such an awful big question, but I've got an idea that it's going to be my only chance. Look here," he added, "don't answer just for a bit, for there are one or two pairs of eyes fixed upon us just at this moment. Turn to your other side and talk. I'll do the same."

Hyacinth obeyed him, and for a brief interval she managed to squeeze out topics to a local young man, who from Honour's forethought sat on her other side.

Presently that low whisper came stealing again to her ears.

"Hyacinth."

"Yes, oh, Jack, take care."

"I am taking care about everything, and as for you I want to take care of you always. Darling, will you be brave? It's all right, no one is listening."

"I will—at least I think so, but, oh, Jack, it's so difficult now."

Her glance flashed across the table to where a pair of moody eyes had only just left her face.

"Yes, it is difficult," answered her lover ruefully. "You have made it so now. Never mind," he added swiftly, as the sweet face fell at his words. "I'll do it even yet—if when I say the word you will only own up, say you made a mistake and stick to it."

She bent her dainty head in acquiescence.

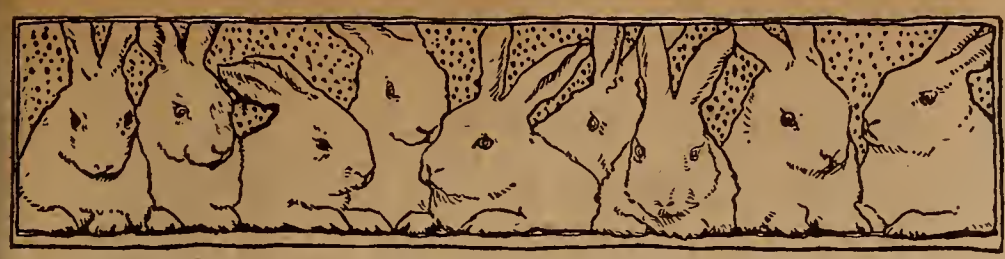
"Think, it is our whole future, yours and mine; isn't it worth a scolding or two, even a few tears? They shall be the last those pretty eyes shall ever shed, I swear."

"How will you manage it now, Jack?" she said. "You tried once before, you know, even before—before I was engaged to him, and you failed."

"I kept two things back from your people which I

[CONTINUED ON PAGE 31]

Copyright, 1909, by Edward J. Clode.



Our Girls at Home

A Spring-Time Romance

It is generally very hard to think up novel ideas for entertainment, isn't it, girls? Even though the old games are lots of fun, they grow tiresome by and by.

Here is a delightful little game to introduce at your next party, and one which is sure to cause heaps of fun and merriment.

Each guest should be provided with a copy of the romance, also a slip of paper and a pencil, and requested to supply the missing words. To those guessing them all award a small prize, while the guests who missed by two or three should be given some little souvenir as a memento of the very happy occasion.

As this is the time the birds choose their mates,
A little love story of birds I'll relate:

——— (1) flew up in the glen,
Sang he in a rapture, "I love ———(2)."
So he pruned and he shone his feathers so gay,
But the result did not please him, he looked like a ——— (3)
He then remembered he once had heard
His loved one admired the sober ——— (4).
So he thought he would borrow his friend's Sunday clothes,
And they would lend dignity when he proposed.
So he flew to where his rival lived in a garret,
And found him entertaining a loquacious green ——— (5).
Our hero's heart failed him when he heard the din
That proceeded from the two friends within.
So he said to himself, "If she don't like this shade,
I vow I'll go courting the little ——— (6) maid."
So he flew to her home in the big hollow tree,
Where his sweetheart was singing a ——— (7).
She was sitting and combing her ——— (8) hair
That he loved and admired above all that was fair.
But she spurned his suit and laughed in the dark,
So he took a few ——— (9) and went on a ——— (10).

He was very downhearted as away he did go,
He wished to see no one who would over him ——— (11).
She had flirted so heartlessly with him, he knew,
That she did ——— (12) him completely, and rejoiced in it, too.
Then he got angry, and swore in his grief
He would go home, ——— (13) for relief;
But as he in his misery flew over the vale
He heard his love singing like a young ——— (14);
She had repented, and after him flew,
For lovers in the valley, as in small towns, are few.
"Will you have me," he cried, "——— (15) grow,
I'll fly far away and get me a beau,
For glad spring time is coming real soon;
If you don't say yes you'll appear like a ——— (16)."
His love dropped her head with a whispered consent;
Of all her vain coquetry she did repent.
So away they flew to the hollow tree,
Where the joyful wedding was soon to be.
All the birds came to this wedding so true,
Of the ——— (17) the bride borrowed "Something blue."
The ——— (18) of course presided over the feast,
The ——— (19) at his right, a royal guest.
Many delicacies were enjoyed by this great host,
And not the least was the ——— (20) on toast.
Who furnished the fuel to cook this food?
Who but the ——— (21) brought in the wood?
All went merry as a marriage bell—
Their friends rejoiced that things went so well,
And our two lived such a happy life
They could not ——— (22) minute for ugly strife.
Now they are so happy with their hopes and loves,
They live as lovingly as ——— (23).

——— (24) one of you learn a lesson from this?
Go, reader, do likewise, live also in bliss.

ISOLENE KNOX MILLS.

NOTE—All readers desiring the answers to this spring-time romance can obtain them by sending a stamped and self-addressed envelope to the Editor, Our Girls at Home, care of FARM AND FIRESIDE, 11 East 24th Street, New York City.

The Care of the Hair

THE first essential to beautiful hair is cleanliness. The hair, like the complexion, needs a great deal of care and attention, and the girl who brushes her hair once a month and shampoos it about every three or four months, can never have beautiful hair. Of course, the interval between shampoos must be decided by individual conditions. For instance, oily hair should be washed about every two or three weeks, while dry hair could be washed once a month.

If you are troubled with dandruff, do not think of shampooing your hair, until you have brushed and shaken out every particle of it. If this is neglected, the hair, when dry, will be sprinkled with the white particles and have a very dusty, dead appearance. A little kerosene rubbed gently into the scalp the day before the hair is shampooed will help loosen the dandruff, so that it may be easily brushed out.

There is nothing finer for a shampoo than castile soap. Shave a little into a basin of water and let it boil. This makes a fine lather. Never rub the cake on the hair.

Now for rinsing. Don't be afraid of the water. The hair should be rinsed at least a dozen times. The first rinsing should be in very hot water, unless the hair has been shampooed with an egg, in which case, tepid water should be used, followed by the hot water, the temperature in both cases being gradually reduced, until the cold water from the spigot is used.

If possible, the hair should be dried in the sunshine. The sunshine makes the hair lustrous. Brushing also makes it lustrous and shiny, but a stiff brush is to be avoided. Use a soft one, and brush the hair with gentle, even strokes.

To promote the growth of hair, there is nothing finer than massage treatment, which you can do yourself. Massage the scalp gently with the finger tips for about ten minutes every night. A little olive oil rubbed into the scalp will remove dandruff and keep it in a healthy condition.

No hair can be called beautiful if it is without sheen or luster.

The Well-Bred Girl

THE girl who is well bred never finds it necessary to announce the fact to the world. Good breeding is as natural to her as breathing, and as necessary, too.

She never gossips nor listens to tales about her friends. This sort of conversation is not pleasing to her.

The well-bred girl seldom apologizes—it is not necessary for her to do so, because she is always careful of other people's feelings, and she never talks of her private affairs.

The well-bred girl never makes herself conspicuous in public places and does not permit herself to be drawn into any arguments in conversation which might involve others.

She is gracious and hospitable, giving of what she has with a good will, and never attempts to entertain in a way she cannot afford. Indeed, she is just a simple, wholesome girl, careful of other people's feelings and always has a ready fund of sympathy for those in trouble.

YOURS FOR $1.00 CASH $1 CASH

AND THE BALANCE LATER IN LITTLE WEEKLY PAYMENTS

HALF A YEAR'S FREE TRIAL

Take this high grade sewing machine into your home, use it as your own, try all its attachments, and if it is not exactly what we claim in every respect; if it is not handsomer, better made, more easy to run, and if it does not do better work than any other machine you ever saw *at any price*, you can return it any time within six months and get your money back, together with all freight charges. *YOU TAKE NO RISK.*

AT MANUFACTURER'S PRICE

We save you $10.00 to $15.00 and allow half a year to pay for a *KING* — the world's highest grade sewing machine. If you find it absolutely perfect, if you feel you couldn't get along without it, send us one dollar and the balance can be paid later in little weekly payments.

It costs you no more to *buy* the *KING* than to *rent* any other sewing machine of equal quality.

GUARANTEED FOR 20 YEARS

We are able to make this marvelous offer because we are the only manufacturers of sewing machines in the world who sell direct from factory to family—giving our customers the dealers, entire profit.

World's Best Sewing Machine

This perfect machine is strictly ball bearing; has the newest drop head; is easy running and sews a perfect lock stitch. Among the operations it performs are adjustable hemming; hemming and sewing on lace; the French seam; felling; tucking; binding; the French fold; braiding; quilting; ruffling; plaiting, ruffling between two hands; edge stitching and piping and shirring. We positively guarantee that this marvelous variety and perfection of work cannot be duplicated by the attachments of any other family sewing machine in the world. Write for illustrated catalog of complete description; and explaining how you can save one half. We are the manufacturers—and save you the dealer's profits.

KING Sewing Machine Co. 258 Court St., BUFFALO, N. Y.

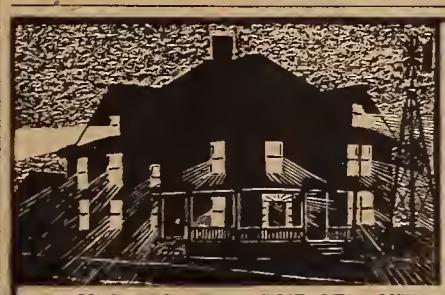
IT'S THE "IMPERIAL"

Which has exclusive features not to be had on other ranges, such as:—
The STONE OVEN BOTTOM absorbs and holds the heat in oven, a fuel saver.
The ODOR HOOD carries all steam and odor from cooking up the chimney.
The ASH SIFTER permits sifting the ashes right in the range. No dust.
The OVEN THERMOMETER tells the exact temperature of the oven. No guessing.

SENT ON TRIAL. SOLD ON TIME. FREIGHT PREPAID.

And if you do not find it the handsomest looker, best cooker of any range you ever saw, send it right back. Send for catalogue, it tells all about the exclusive features, the liberal terms upon which we sell, and how we save you money.

IMPERIAL STEEL RANGE CO., 868 State St., Cleveland, Ohio



Let Us Flood Your Home With Light

Reliance Acetylene Generators are so perfect and easily installed that our customers can pipe their homes in a few hours' idle time and save heavy gas-fitting expense. We furnish complete working plans and allow

30 Days' Free Trial

The Reliance Generator has no superior for efficiency, economy of operation and low cost of machine. By making your own installation you save many additional dollars, and if you have not the necessary tools we will lend them to you.

Acetylene lighting is safest, best and cheapest. Write for our beautiful free booklet today, and give us a short description of your house.

102 Hickory St. THE GEM CITY ACETYLENE GENERATOR CO. Dayton, Ohio

Grand Prize Contest

An Unlimited Number of Prizes will be distributed among those who make a copy of this picture. If our Art Director decides that your copy is even 40 per cent. as good as the original, it will win an illustrated magazine FREE OF CHARGE FOR SIX MONTHS, showing the work of the most prominent artists of the country.

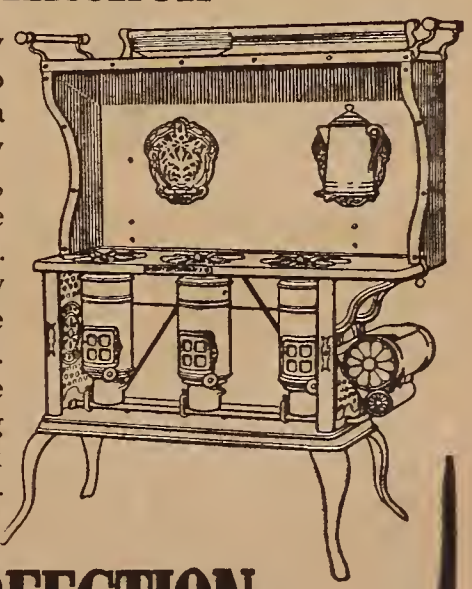
No Money Required to Win a Prize—It will not cost you a cent to enter this contest. Sit right down now and copy this picture with either pencil or pen and ink. See how well you can do it. If you are a prize winner it will prove you have talent for drawing.

Copy This Picture and Win a Prize

Thousands of people now earning small pay have Illustrating ability, but do not know it. If you will send your drawing to-day, we will tell you whether you possess this talent. If your drawing is even 40 per cent. as good as the original, you have this natural ability, and we can start you on the road to a comfortable and independent living, with pleasant, steady and profitable employment.

Correspondence Institute of America, Dept. 600, Scranton, Pa.

Put This Stove in Your Kitchen

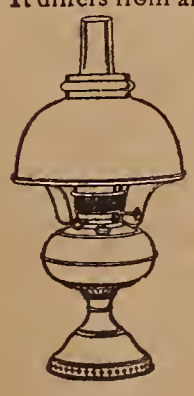


It is wonderfully convenient to do kitchen work on a stove that's ready at the instant wanted, and out of the way the moment you're done. Such a stove is the New Perfection Wick Blue Flame Oil Cook-Stove. By using it you avoid the continuous overpowering heat of a coal fire and cook with comfort, even in dog-days. The

NEW PERFECTION

Wick Blue Flame Oil Cook-Stove

is so constructed that it does not add perceptibly to the heat of a room. It differs from all other oil stoves in its substantial CABINET TOP, with shelf for warming plates and keeping cooked food hot, and drop shelves for holding small cooking utensils. Has every convenience, even to bars for towels. Three sizes. With or without Cabinet Top. If not with your dealer, write our nearest agency.



The Rayo Lamp is the ideal lamp for family use—safe, convenient, economical, and a great light giver. If not with your dealer, write our nearest agency.

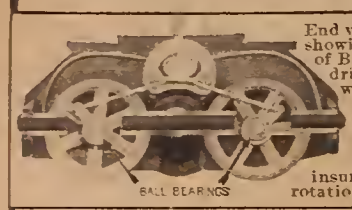
Standard Oil Company (Incorporated)

A SWEEPING SATISFACTION!

BISSELL'S NEW "Cyco" BALL BEARING Carpet Sweeper

represents the latest and highest development of the carpet sweeper art; runs so easily a mere touch propels it; adjusts itself automatically to all grades of carpets or rugs, removing dust and grit with ease and thoroughness unknown to any other make of sweeper.

No other cleaning device either takes the place of or can supplant the



End view of sweeper showing application of Ball Bearings to driving wheels, which are forced tightly against the brush pulley as slight pressure is put on the handle, insuring a positive rotation of the brush.

Bissell as ours is the ever-ready, handy machine that is needed daily in every home and that is within the purchasing power of the masses of the people. The drudgery of sweeping is unknown to the woman using a latest improved Bissell.

Just consider that a Bissell Sweeper will last longer than fifty corn brooms.

For sale by all the best trade.

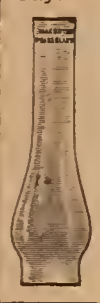
Prices, $2.75 to $6.50.

Buy now from your dealer, send us the purchase slip *within one week from date of purchase,* and we will send you FREE a fine quality leather card case with no printing on it.

BISSELL CARPET SWEEPER CO.
Dept. 77, Grand Rapids, Mich.
(Largest and Only Exclusive Carpet Sweeper Makers in the World).

Poor lamp-chimneys break because not made of the right kind of glass; and smoke and smell because not correctly designed and fitted to the burner.

Lamp-chimneys with MACBETH on them never break from heat—in the end they are the cheapest lamp-chimneys you can buy.



My Lamp-Chimney Book insures getting the right lamp-chimney for any burner, and gives suggestions about lamps, chimneys, wicks, oils, and tells how to keep lamps in order. I gladly mail it, free, to any one who writes for it. Address

MACBETH
Pittsburgh

FOR FURNITURE

of all kinds and all interior woodwork

Just Use CAMPBELL'S

The Original

VARNISH STAIN

Good for floors too

your dealer sells it

CARPENTER-MORTON CO. BOSTON

Near-Brussels Art-Rugs, $3.50

Sent to your home by express prepaid.

Sizes and Prices
9 x 6 ft., $3.50
9 x 7½ ft., 4.00
9 x 9 ft., 4.50
9 x 10½ ft., 5.00
9 x 12 ft., 5.50
9 x 15 ft., 6.50

Beautiful and attractive patterns. Made in all colors. Easily kept clean and warranted to wear. Woven in one piece. Both sides can be used. Sold direct at one profit. Money refunded if not satisfactory.

New Catalogue showing goods in actual colors sent free.

ORIENTAL IMPORTING CO., 911 Bourse Bldg., Philadelphia.

LEARN TO WRITE ADVERTISEMENTS IF YOU ARE EARNING LESS THAN $25 A WEEK

we can positively show you by mail how to increase your salary. Send for beautiful prospectus, mailed FREE.

PAGE-DAVIS SCHOOL, Dept. 25, Chicago, Ill.

2941 Hidden Name, Friendship, Silk Fringe, Envelope and all other kinds of CARDS and Premium Articles. Sample Album of Finest Cards and Biggest Premium List, all for a 2 cent stamp. OHIO CARD COMPANY, CADIZ, OHIO.

WALL PAPER 1c a Roll AND UP.

Mouldings 1c per foot. Write today for Free Catalog.

West Side Furniture Co., 903 Broad Street, Columbus, Ohio

Plans for the Garden

By Samuel Armstrong Hamilton

Photographs by Frank Cremer

THE advent of another spring should bring with it the resolution on the part of every flower lover that the garden the coming season will be finer than ever. If not, then you have been retrograding, instead of going forward.

There always should be a plan for every garden. Most expert amateurs do their planning during the winter months, and those of you who did not plan in advance, but left it to the last minute, must make the best of it, and I will try to help you. There is certain work which can best be done in the spring, among which is the planting or rearranging of the hardy border. If there is none in your garden, you are to be pitied, as there never was so good an opportunity to have one as now; hardy plants never were so cheap, as you can see for yourself if you consult the catalogues of the dealers who advertise in FARM AND FIRESIDE. Neither can you offer the excuse that you have no room, for I doubt if there is a garden in the country which has not room for at least a small border. In most of them there is a stretch along one or more fences which bear few crops but weeds, and the best place for a border is next the fence, if you must have a fence in this day of civilization. Also, every garden in which vegetables are grown has a good place for a hardy border—along the walks.

A Bed of Tulips Which Have Been Properly Staked

The established border should be gone over carefully, and those plants which have outgrown the space originally allowed for them should be divided, in order that your border should not have a cluttered appearance. This applies more particularly to such plants as the iris, hardy phlox, and the lilies. The scheme we teach in the making or rearranging of a hardy border is that the tall-growing plants at the back and near-back should not be allowed to crowd one another, but have plenty of open space around them, in which we plant "fillers" or "underbrush," by which I mean small shade-loving plants and semi-creepers, which give the border a carpet, as it were, of flowers and foliage. This is different from the old-fashioned plan, which was to plant the border as closely as possible with plants as nearly a size as could be matched, and one saw but the tops of the plants, and there was no break in the line scheme. As a result, when the time *did* come when the plants *had* to be divided, it took two or three years before the desired result was again attained.

The hardy shrubs should have attention in April. This is the time to give them their first cultivation and a good feeding of fine bone meal. One of the chief troubles in the growing of the shrubs is the fact that they do not have feeding room enough. As a rule there is a space of two feet about the shrubs which is kept free from grass, if the shrub is growing on the lawn, and they are expected to do their feeding in this restricted space, which is not enough. You can take it as axiomatic that the roots of a tree or shrub are never shorter than the width of the head. If the head be six feet in diameter, then there should be a cleared space around it of at least three feet from the stem. In this the bone meal should be put, and be merely lightly raked under the surface—the rains will do the rest. Put very little fertilizer within a foot of the stem, as there are almost no roots there that feed; they lie at the outside.

Iris Makes an Attractive Bed for the Flower Garden

I am presuming that you keep a record as to how the shrubs and bushes bloomed last season. Were there any which seemed to be deteriorating in the size, quality or color of the flowers? For instance, did the lilacs appear too pale and the quantity of bloom too small for the size of the plant? If so, they need a feeding of nitrate of soda, which you can give them by soaking the cleared space with a solution of two ounces of nitrate of soda salts in five gallons of water. This will make the colors brilliant, but for the reduced size of the flowers, give them a little potash, which you can do by raking in the soil, in the cleared space, a covering of unleached hard-wood ashes.

These same measures can be applied to the border, the trees, shrubs and bushes of all kinds, and will insure that they will give good results this season, as they are all quick acting, and cannot harm the plants in the quantities named.

Of course the roses should have attention at this time. There are two ways of growing the hardy roses: One is for fine large blooms, and the other for a display on the bush. In the former case, if you have not pruned the bushes during the winter, as you should have done, cut back to the starting point all but the main stem, and allow that to develop, but as soon as it shows a rosebud, select the topmost one, and pinch off all the others, and you will get what is called a "terminal-bud" rose. The quality will be fine, and it should be extra large, and there will be but one to a bush. If you desire a fine display on the bush, cut back all the shoots to three "eyes," or joints, cutting out the center of the bush, so that it will appear hollow in the center, and allow these three eyes on each shoot to each develop one rosebud. On a five-year-old bush this will give you about thirty of the finest roses it is possible to grow by this method, and they will all be in bloom at one and the same time—barring accidents.

If you intend to have a bed or border of annual plants, or if your hardy border has a front strip of annuals, you should make up the space for the annuals now. Have it dug up in ridges, and leave it there for a month if you will use plants from pots, and by the first of May you may rake it level and dig in some well-rotted horse manure. It is not likely that you will put the plants out before the last week of May, unless you live south of Washington.

If you are going to raise the annuals from seed where they are to grow (which I do not approve, but have not space to tell why), make up the seed bed, digging in the manure, but do not rake it until ready to plant, which will not be for several weeks. If amateurs understood the value of aeration of the soil, they would do as our English brethren do—trench the soil—and they would not need to buy nitrates from the seedsmen.

If you are going to sow the seeds where they are to bloom, do not sow them broadcast, but when ready to plant them, make little drills, and sow them one at a time. It is against Nature for annuals to be transplanted or disturbed, and if you sow the seeds broadcast, and must then thin the plants out, when they are grown several inches tall, it involves disturbing those left behind. When dropped singly in drills they can grow on undisturbed, for you will sow three times as many as you need. When two inches high, take out every other one, and when four inches high, take out the same number, and you will have a stand of plants full of vigor and at the required distance apart.

If you planted a bed of bulbs last fall, you should give them close attention right now. They will be pushing through the ground, and all rubbish should be taken off the beds and the soil worked with the weeder or a small hand rake. Tulips will need staking as soon as the buds show. The daffodils, if of the Von Sion variety, may also need staking, unless your ground is rich, in which case they will likely stand alone. The hyacinths usually stand alone in the open, but it depends upon the season. If very warm in the first part of April, they may force long stems, and a hard wind break them down. Watch them closely. As soon as the bulbs have quit blooming, pull them out; it pays best to put new bulbs in every season. The spring-blooming bulbs will be out of the way before you will need the space for the bedding plants, so every bed and border should be planted to bulbs in the fall, to insure a spring display in the garden.

The Household

Company Desserts

For the woman who delights in serving dainty dishes when she entertains or has a little gathering at her home, the desserts given below are excellent. They are very easy to prepare and not at all expensive. Any one of these dainty desserts would be just the thing to serve when one has company for dinner.

Peach Dessert—Have ready one cupful of chopped and sweetened oranges to each three persons. The skin and white bitter part should be carefully removed, and the oranges very cold at serving time. In a small china or glass sauce dish place the half of a large canned peach, and cover with the orange, adding one teaspoonful of powdered sugar last of all. Do not make the mistake of taking the peach halves out of their sirup too soon, as they shrivel and look mussy when this is done.

Fruit Macedoine—Take one can of shredded pineapple, six medium-sour oranges cut fine, the juice of three lemons and two cupfuls of sugar for this dessert. Boil the sugar three minutes with a little water to melt it, and skim. Allow it to become nearly cold, then add to the pineapple, chopped orange and lemon juice. Be careful to keep out all seeds. Set in a cold place two or three hours. This is enough for ten persons if served in sherbet cups. After dishing up, a few preserved cherries or ginger pears may be lightly placed in the top, but the plain mixture is best.

Chocolate Pudding—Place one quart of milk in a double boiler or pan to boil. Have ready three eggs beaten light with one cupful of sugar and one tablespoonful of corn starch. Make thin with two or three tablespoonfuls of sweet milk, and add to the hot milk, stirring well, to make it thick and smooth. Have ready one half cake (small) of grated chocolate, and add, stirring all the time. Flavor with a little vanilla, and when brown and smooth take from fire. Place in a dish to get hard, or use individual molds, such as old cups or patty pans. Put in a cold place, and serve at dinner with whipped cream.

Individual Shortcakes—Make baking-powder biscuits, split, and butter while hot. On the lower half place a large spoonful of preserves or jam, put on the top, and add a generous mound of whipped cream. These should be made at the last minute, so as not to melt the cream.

Fruit Pudding—Make up a dish of gelatine according to the directions on the box, and put in a cold place to harden. As it begins to harden, gently drop in bits of orange, white grapes, candied cherries or heavy, rich preserves. Cut in slices or blocks when cold, and serve with whipped cream.

To Remove Ink Spots

If, as soon as ink has been spilled, you immerse the spot in sweet milk, letting it stand until the milk has soured, you will have no trouble in removing the stain. Fresh ink comes out readily with such treatment. In case the stain is old, oxalic acid is the best remedy. Buy five cents' worth in crystallized form, put into a bottle, and pour cold water over it. If part remains undissolved, add more water as the solution is used. Touch only the stain with the solution, and as soon as it disappears rinse quickly and thoroughly or it will weaken the fiber of the cloth. As oxalic acid is a poison, it should be plainly labeled and put in a safe place.

Useful Hint

When working about the kitchen stove one is apt to be constantly looking for a holder or to have to walk across the room to get one. To do away with this trouble, make a band to go around the waist. To this attach two strips—one on each side—with a holder at the end of each strip. Your holder is always at hand, and can immediately be grasped by either hand.

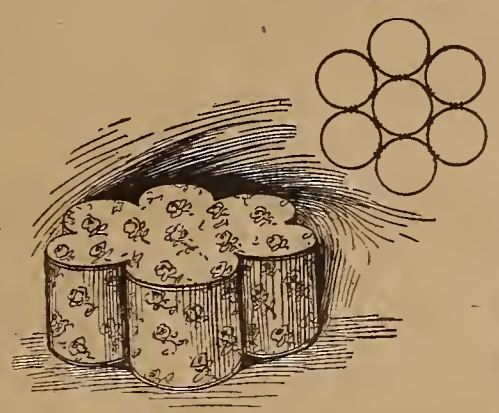
Good to Remember

For cleaning tinware there is nothing better than dry flour applied with newspaper.

Lamp wicks can be prevented from smoking by soaking them in vinegar, then drying thoroughly.

If a sprig of parsley dipped in vinegar is eaten after an onion, no unpleasant odor from the breath can be detected.

When a lamp wick gets tight in the burner and is hard to move, draw out one or two threads of the wick from one end. This will remedy the tightness.

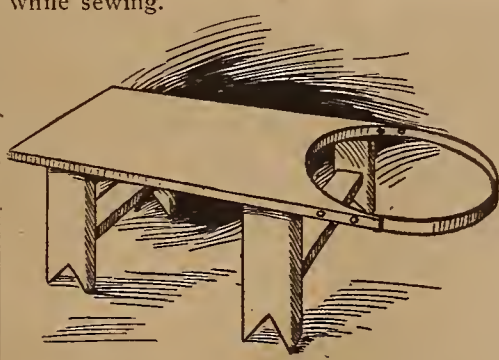


Novel Footstool

Here is economy for you! An attractive footstool made of tin cans. It is the easiest thing in the world to construct. Just read the directions and try for yourself.

Secure seven empty tin cans of uniform size. Sew a band of carpet or good, substantial cloth around each can, covering its circular surface, and bind them together with needle and thread at the ends. Cover the top with the same material. The bottom, or open, ends of the cans may be covered with cloth, cardboard or other material cut to fit.

This stool would make a convenient article for any part of the house. It is a comfortable thing to rest the feet on while sewing.



Bench for Holding Milk Pail

If you have trouble with the cow kicking over the milk bucket, ask the man of the house to make you a bench like the one pictured above. It is made like an ordinary stool, except that the top is about two and one half feet long. A half circle is cut in one end, and a piece of iron hoop (one from a cask will serve the purpose) is nailed to the end having the half circle, and is made just the size that will exactly hold the bucket.

Beef Soup

Grind one half pound of steak and two medium-sized potatoes through a food chopper, also one onion and two or three stalks of celery. Add one tablespoonful of rice. Put all the ingredients in a large granite kettle, and add water enough to make portions for six people. Season with salt, pepper and a small lump of butter. Let boil slowly for an hour, after which set back on the stove to settle before serving.

Delicious Meat Roll

Three pounds of beef, one half pound of pork chopped or ground fine, six crackers rolled fine, three eggs, one tablespoonful of salt, one teaspoonful of pepper and three tablespoonfuls of cream. Mix all together, form into a roll, and sprinkle the top with flour and lumps of butter. Put into a pan with butter and water, and baste frequently. Bake from one to two hours.

More Griddle Cakes

Stale-Bread Cakes

Soak two cupfuls of bread crumbs for an hour in one quart of milk. Into this beat one tablespoonful each of molasses and melted butter, one teaspoonful of salt and two eggs. Add one half cupful of flour sifted with one half teaspoonful of baking powder. Bake on a griddle as usual.

Oatmeal Cakes (Scotch)

Mix together three cupfuls of oatmeal, two cupfuls of flour and two teaspoonfuls of baking powder. Add three cupfuls of milk and one tablespoonful of melted butter. Beat well, and drop onto a hot griddle, spreading them thinly.

Eggless Griddle Cakes

At supper time scald one cupful of corn meal with one cupful of boiling water, add two cupfuls of flour, two cupfuls of milk, one tablespoonful of melted butter, the same of molasses, one level teaspoonful of salt and one half yeast cake dissolved in a little warm water. Beat hard, and set to rise. In the morning beat again, heat the griddle, and bake.

Sour-Cream Biscuit

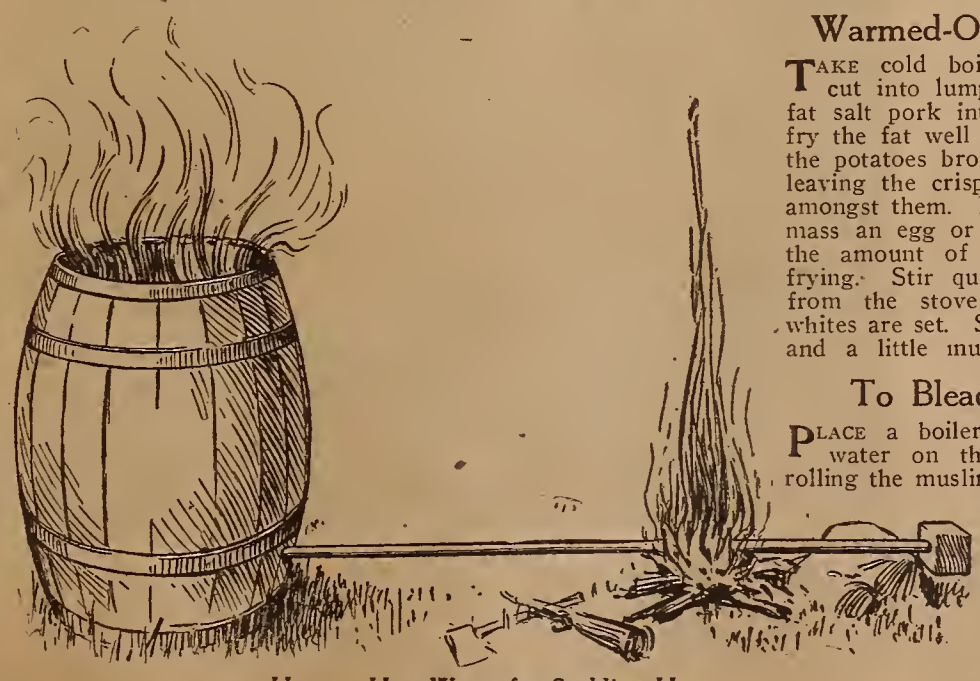
Sift together two cupfuls of flour, one half teaspoonful of salt, one teaspoonful of sugar and one rounded teaspoonful of baking powder. Put into a bowl one half cupful of sour milk, and beat into it one half teaspoonful of soda dissolved in one tablespoonful of tepid water. As soon as it stops "singing," mix it in with the sifted flour, stirring gently but quickly with a spoon, then turn out on a well-floured board. Pat with floured hands until a smooth cake is formed, then cut into shapes with a small biscuit cutter. Lay in a greased dripping pan, and bake on the top grate in a hot oven. The biscuits should puff up quickly, then brown. If you have no cream rub one spoonful of lard or butter into the sifted flour before adding the dissolved soda. Keep the dough as soft as possible, so that the biscuit will be tender and delicate.

Warmed-Over Potatoes

Take cold boiled potatoes, and cut into lumps or blocks. Cut fat salt pork into small dice, and fry the fat well out of them. Fry the potatoes brown in the hot fat, leaving the crisp dices of pork in amongst them. Break over the hot mass an egg or two, according to the amount of potatoes you are frying. Stir quickly, and remove from the stove as soon as the whites are set. Season with pepper and a little mustard.

To Bleach Muslin

Place a boilerful of deep blue water on the stove, and unrolling the muslin, put it in and let come to a boil. Remove from boiler without wringing, and hang on line in full sunlight. When dry, iron, and depend on the first washing to make it white, or wash again in usual way.



How to Heat Water for Scalding Hogs

Take a piece of gas pipe about two inches thick and seven or eight feet long, and screw it securely into a strong vinegar barrel, very near the bottom. Screw the other end into a good-sized wooden block. (Do not use a metal cap, as it might cause the pipe to burst. The wooden block serves as a safety plug.) Build a fire under the pipe as illustrated, and it will prove a great improvement over the old way.

You needn't be afraid

One day a lady who had been reared in the careful luxury of the old-fashioned Virginia home was invited to visit the kitchen of a great Chicago hotel. She wanted to go, but was afraid. When asked why, she replied, "I'm afraid I'll see something that will forever destroy my appetite for hotel food." She went, and found everything delightfully clean.

Good housewives consider cleanliness and purity first of all; that's why Quaker Oats is their choice among all oatmeals. In making Quaker Oats the grain is sifted and resifted, passing through more than fifty processes of cleaning before it is cooked and rolled.

If you took a handful of oats and scrubbed and polished and wiped each separate grain, it wouldn't then be nearly as clean as Quaker Oats. No human hand ever touches a single grain of Quaker Oats from the field to your kitchen. The best advice on foods you could have is: Eat Quaker Oats every morning for breakfast.

This wonderful food is sold in three kinds of packages. The regular package at 10c. The large size family package at 25c, and the large size family package containing a fine piece of table china at 30c.

FOR FORTY YEARS A STANDARD PIANO

WING PIANOS

Best toned & most successful. Recent improvements give greatest resonance. Sold direct. *No agents.* Sent on trial—freight paid; first, last and all the time *by us*—to show our faith in our work. If you want a good piano, you save $75—$200. Easy terms. Slightly used "high-grades," 3 Chickerings, 2 Bradburys, etc., $75 up; taken in exchange for improved Wing pianos—thoroly refinished. Send for bargain list. *You should have anyway*—"Book of Complete Information about Pianos." 152 pages. *N.Y. World* says: "A book of educational interest everyone should have." **Free for the asking** from the old house of WING & SON, 368-399 W. 13th St., New York

"I MADE $12 PER DAY

Selling This 7-Piece Kitchen Set"

From sworn statement of H. S. CUNNINGHAM.

AGENTS

are coining money—selling from 50 to 500 sets per week. You can do it. Send your address today and let us PROVE IT. Experience unnecessary. We show you how to make $3 to $10 a day. OUTFIT FREE to workers. THOMAS MFG. CO. 404 Home Bldg. Dayton, Ohio

POST CARDS AND ALBUM ALMOST GIVEN AWAY

To introduce our large new 48-page illustrated catalog we give a beautiful album, fancy colored cover, black leaves, filled with lovely art post cards, practically without cost. Send 10c coin or 1-c. stamps to cover postage and packing. Only one album to each customer. Address HOMER GEORGE CO., Dept. 220, CHICAGO, ILL.

$4.90 FOR THIS BEAUTIFUL Marble Tombstone

Lettered exactly as illustrated. More than 500 other kinds, styles and sizes in granite and marble at $3.60 to $385.00. If you want the best in stonecraft at direct-from-the-quarry prices, write for our Tombstone Catalogue No. 476E.

SEARS, ROEBUCK & CO., Chicago

Don't Throw it Away. Does Your Granite Dish or Hot Water Bag Leak? USE MENDETS A PATENT PATCH

They mend all leaks in all utensils—tin brass, copper, graniteware, hot water bags etc. No solder, cement or rivet. Any one can use them; fit any surface; two million in use. Send for sample pkg. 10c. Complete pkg. assorted sizes, 25c postpaid. Agents wanted. Collette Mfg. Co., Box 448 Amsterdam, N. Y.

This ELEGANT Watch $3.50

Hunting case beautifully engraved, gold finished throughout, thin model, stem wind and stem set, fitted with a richly jeweled movement guaranteed 20 years, with long gold plated chain for ladies or vest chain for gents. IF YOU SEE IT YOU WILL BUY IT. Let us send it C. O. D. by express for your examination and if you think it a bargain and equal in appearance to any $15.00 gold filled watch pay the express agent our special sample price $3.50 and express charges and it is yours. Our 20 year guarantee and chain sent with each watch. Send your name post office and express office address, mention if you wish Gents or Ladies size and we will send at once. M. C. FABBER, A29, 225 Dearborn St. Chicago, Ill.

PARKER'S HAIR BALSAM

Cleanses and beautifies the hair. Promotes a luxuriant growth. Never Fails to Restore Gray Hair to its Youthful Color. Cures scalp diseases & hair falling. 50c. and $1.00 at Druggists.

A Gold Watch
Without Cost

You can get it through the Million Club of FARM AND FIRESIDE. You also can get hundreds of other beautiful and valuable prizes without cost to you.

John L. Thompson, Secretary of the Million Club

The Million Club

For Every Reader of FARM AND FIRESIDE

The Million Club is a mutual benefit association of FARM AND FIRESIDE and its readers. You can help FARM AND FIRESIDE by giving us just a little of your time in the pleasantest sort of way. FARM AND FIRESIDE, in return, will reward you most liberally with some of its beautiful prizes.

You can choose the prize you want from our big Reward List. Every prize is guaranteed to be just exactly as represented.

Costs Nothing to Join

It costs nothing to join the Million Club. There are no dues, no initiation fee, no assessments of any kind. All that is required is a desire on **your** part to save money. **It means money in your pocket from the very day you join.**

The Million Club already has thousands of members. You can be a member just as well, whether you live miles from a town or in a good-sized village. In fact, our most prosperous members live on rural routes.

That Million Club members are more than satisfied is proved by dozens of letters like the following:

I received my bicycle safely and it certainly is fine. I am delighted with it. ALLEN M. LOVE, R. F. D. 2, Dayton, Ohio.

The sewing machine you sent me is surely beautiful. I could not possibly be more pleased. MRS. H. J. JARVIS, R. F. D. 2, Delaware, Ohio.

Write To-day

Send me your name and address on a postal card, and tell me you want to join the Million Club. I will immediately send you our big Reward List, postpaid, containing illustrations of over 300 handsome and useful articles that you can get. I will also send you a complete outfit and full particulars about the Million Club, entirely free. Write me to-day.

JOHN L. THOMPSON, Secretary
THE MILLION CLUB
Farm and Fireside, Springfield, Ohio

Good Reading for Easter Day

The Message of Easter

OF ALL glad days in the year—and there are many of them—the happiest, the loveliest and the sweetest is Easter, the day that Christ rose from the semblance of death to new and everlasting life. Can there be anything more beautiful and more wonderful in all the world than that first bright Easter morning so many, many years ago, when the three faithful women who loved Jesus so dearly came to the sepulchre and found the great stone rolled away and the angel of the Lord standing guard? In consternation and affright they asked what had been done with their Lord. And the angel stretched forth his hand and showed them their beloved Master in the garden close at hand. Ah, the joy and sweetness of that tender meeting when they knew their Lord was not dead, but was alive again!

Christmas, the birthday of our Savior, is dear to all hearts, but it has grown to be more our day than His—a day when we show our love for our dear ones by bestowing gifts upon them. But Easter is the Lord's own blessed day, the glorious day when He proved to us that there is life after the death of the body. At Easter time all Nature awakens from her long, death-like sleep. The trees, which in the fall seemed to die, have all come to life again and put forth their tender green buds. The ponds and rivers, lakes and brooks, which have been still and voiceless all winter long, have thrown off their icy coverings and have come to life again. And the courageous little snowdrop has begun to grow and to struggle upward even before the snows of winter have melted. All these are tokens of the life that is undying. But greater than all is the token that Christ gave us when He arose on the third day from the dead and returned to comfort His disciples.

Were it not for the great and glorious knowledge that after death there is life, sweet and peaceful and full of happiness forever, the few years that we call our life on earth would scarcely be worth the living. But there is no end to life; life is everlasting, and everlasting means always was and always will be.

It is not for us to concern ourselves with eternity, however, except as we shape and course our lives now. We are in the present, and our future and our eternity will be guided by it.

Let us each have a Resurrection morning of our own this Easter Day. If there is anything in your life that should not be there—any unkind thought, any selfishness, uncharitableness or a disagreeable trait of character that has been growing upon you—let it die, and rejoice in its death. But call to life all the good that you can find in yourself and ask God to make it grow in strength and beauty. That will be your Resurrection, and is it not splendid that we are able to awaken to goodness and love and charity and all the Christ-like qualities now, while there is yet time? Think, think, of the great privilege of being resurrected while there are still many years of life stretched out before you! If this were truly your last day of life, oh, the many regrets that would come sweeping over you; the many things that you would wish to do—if there was time. But there is time; permission has been granted you to live many years longer, in order that you may accomplish your life's mission. Do not delay; set about it at once.

If we would keep a careful watch over ourselves from day to day, stifling evil and encouraging the good that is in us, it would not be necessary for us to cry a halt upon ourselves so often. If we would form the habit of retaining only the best and rejecting the worthless as we go along, the day of spiritual house-cleaning would not seem so appalling.

I know of an old stone mansion near the sea that was once a marvel of beauty. It has not been occupied for a great many years, however, and in all that time no care has been taken of it, so that it has gradually fallen into decay. The once lovely garden and driveways have become choked with weeds and an eery feeling pervades the whole place. Ah, the pity of it! A little care from day to day, from month to month, and from year to year, would have preserved this old house in all its loveliness, but now the task of resurrecting beauty out of the desolation would be gigantic.

And so the message of this Easter Day to you is: Awake! Awake! And the message is sent straight to your soul. All Nature is calling to her children to awake. The birds and the trees and the flowers are obeying the summons! 'Tis Easter Day—our own as well as our dear Lord's Resurrection Morn! Rejoice and be glad that we have been given the sign of life everlasting! Come, let us pile high our churches and our homes and our lives with "every flower the garden wears," for it is Easter, glad Easter Day!

A. V. BURRELL.

"Easter Morning" H. Hofmann.

But Mary stood without at the sepulchre weeping: and as she wept, she stooped down, *and looked* into the sepulchre, and seeth two angels in white sitting, the one at the head, and the other at the feet, where the body of Jesus had lain. And they say unto her, Woman, why weepest thou? She saith unto them, Because they have taken away my Lord, and I know not where they have laid him. And when she had thus said, she turned herself back, and saw Jesus standing, and knew not that it was Jesus. Jesus saith unto her, Woman, why weepest thou? whom seekest thou? She, supposing him to be the gardener, saith unto him, Sir, if thou have borne him hence, tell me where thou hast laid him, and I will take him away. Jesus saith unto her, Mary. She turned herself, and saith unto him, Rabboni; which is to say, Master.—St. John xx, 11-16.

Ring, Happy Bells

RING, happy bells of Easter time!
The world is glad to hear your chime;
Across wide fields of melting snow
The winds of summer softly blow,
And birds and streams repeat the chime
Of Easter time.

Ring, happy bells of Easter time!
The world takes up your chant sublime,
"The Lord is risen!" The night of fear
Has passed away, and heaven draws near;
We breathe the air of that blest clime
At Easter time.

Ring, happy bells of Easter time!
Our happy hearts give back your chime!
The Lord is risen! We die no more;
He opens wide the heavenly door;
He meets us, while to him we cry,
At Easter time.

LUCY LARCOM.

The Garden of Our Heart

IT IS said that unkind thoughts are reflected in one's expression. Perhaps they may not be noticeable now, but gradually they will be in evidence. If you have planted in your heart the weeds of bitterness and hatred, pluck them out, and in their stead, plant flowers of forbearance, love and kindness, and notice the transformation. Instead of the unhappy, miserable person you were, you will be light hearted and happy, and in consequence the expression of your face will be sweeter.

It is generally at Easter time that we plan our gardens, planting in them only the prettiest and sweetest of flowers. Why not, therefore, make a garden of our hearts, sowing the seeds of forbearance, love and kindness, caring for them as we would a garden of the most delicate flowers. As soon as we find ugly weeds crowding our garden, let us pull them up and throw them away.

Let God visit your garden daily, and the flowers will surely thrive. They need His care, which He is always ready to give, and which is so essential to the success of all our endeavors. He wants our confidence, and He is hurt when we do not go to Him with our little perplexities and troubles.

Start your garden *NOW*. The very first time you find yourself about to say unkind words, stop and think—don't say them, for you will be planting weeds instead of flowers. Perhaps the result of your efforts may not be apparent the first year, but constant care and frequent weedings will accomplish wonders, and in a season or two the flowers that you have planted in your heart will have taken firm root and will bear sweeter and lovelier blossoms.

The rains of misfortune and trouble will not kill the flowers that we have planted in our hearts. Indeed, the blossoms will come up fresher and sweeter after every shower. But beware of the frosts of hatred and envy and malice. The tender flowers of our hearts will never withstand their chilling and blighting influences.

E. M. F.

Words and Music
by
WILL A. HARDING

Hail to the Risen Lord

AN EASTER SONG
by the Author of
"Ma Little Brown Babee"

Maestoso.

Hail to the ris-en Lord! Lord of the earth and sea;

dim - in - u - endo.

Hail to the King of Kings,— Prince of E-ter-ni-ty. With glad-some hue and cry, Heav'n and earth pro-claim Him

piu mosso.

Sov-'reign Most High Of this en-tire do-main. When comes the drear, cold, win - try night, With

Andante dolendo.

ritenuto. lento.

cres.

shad-ows dark and deep, All na-ture, wrapt in her robes of white, Calm-ly is lull'd to sleep.

Piu vivace.

'Twas thus our Lord laid down His pow'r and for us gave His life, That we might gain, by that sad hour, Free-dom from care and strife.

cres. rit e dim.

Giubiloso.

But balm - y spring a-gain is come; A-wake! ye blossoms gay! Un-fold your pet-als to the sun, 'Tis glo - rious Eas-ter

cres - - cen - - do.

stringendo.

Day! The Lord is ris'n! Let earth re-joice, And glad-ly to Him sing; The Lord is ris'n! At-tune thy voice, And

crown Him Lord and King! The Lord is ris'n! At-tune thy voice, And crown Him Lord and King! . . . . .

ff allargando. a tempo.

Copyright, 1907, by The Crowell Publishing Company.

All Six
Are Almost Free

These are the stylish Wild Rose design, triple-plate silver teaspoons. They are made by the famous Oneida Community Ltd.

They are exactly similar in quality to spoons selling at $3.00 for the six in the best stores. It takes an expert to tell them from sterling silver spoons selling at $7.50 for the six. They are guaranteed for **ten years**, and you can get all six without paying a cent.

Simply Do This

Get only **five** of your neighbors or friends to each give you 35 cents for a full year's subscription to FARM AND FIRESIDE (24 numbers). Send the money and the subscriptions to me and I will send you the six silver teaspoons above by return mail, postpaid. That is all you have to do. You can get a second set by getting five more subscriptions, if you like. Don't delay. Canadian subscriptions 25 cents extra. Address

John L. Thompson, Secretary

THE MILLION CLUB

Farm and Fireside, Springfield, Ohio

Let Me Send You Our Reward List

FARM AND FIRESIDE has prepared for its readers a book containing illustrations of nearly three hundred handsome articles that can be obtained entirely without cost.

All you have to do to get them is to interest a few of your neighbors and friends in FARM AND FIRESIDE, which is very easy.

Many of these fine articles are probably just what you have wanted for a long time for yourself, your home or your farm.

Let me tell you how to get them without cost. Send me a postal asking for our big Reward List (it's free) and I will hustle it to you by first mail, and write you fully. Just write —that's all—to

John L. Thompson, Secretary

THE MILLION CLUB

Farm and Fireside, Springfield, Ohio

New Spring Fashions From

No. 685—Box-Plaited Play Dress

Pattern cut for 2, 4, 6 and 8 year sizes. Quantity of material required for medium size, or 6 years, four yards of twenty-seven-inch material, or three yards of thirty-six-inch material.

French Neckwear Novelties

THE new neckwear for spring and summer is decidedly feminine. Starched effects are out of fashion in Paris; the Dutch and Eton collars which have been worn for so long a time made of stiff linen are now fetchingly dainty and soft. They are made of the sheerest of linen or lawn with lace insets or hand embroidery for elaboration. These collars are also seen made entirely of Irish lace with jabots of Irish lace trimmed with crochet buttons. The Dutch collars will be worn both with and without a jabot.

As for jabots, there is simply no end to their variety. The newest are rather narrow in effect. They are lace trimmed and embroidered and made up with or without a little butterfly bow at the top.

The smart neckwear nowadays to be worn with a tailored suit consists of an embroidered turnover linen collar, or a Dutch collar with either a narrow jabot of fine linen embroidered or a double effect is favored—that is, there is the bow with jabot ends of linen, hand embroidered, and beneath is a plaited jabot made of sheerer linen edged with lace.

Cluny lace is much used as a trimming for the new jabots, and sometimes they are trimmed with the smallest of satin-covered buttons, to give just a note of color. This touch of color is seen to a considerable extent in the new neckwear. Old blue, rich yellows and the cedar shades are favored.

Net stocks combined with ruching are among the neckwear fashions of this spring. Frequently the net shows a silk-embroidered design.

No. 1301—Dart-Fitted Waist With Tab Collar

Pattern cut for 34, 36, 38, 40 and 42 inch bust measures.

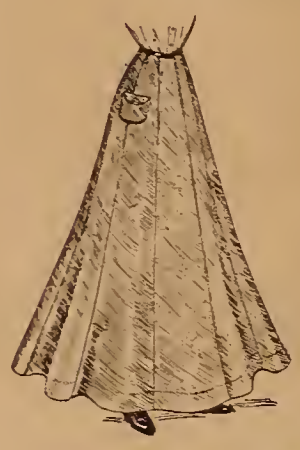
No. 1302—Five-Gored Skirt, Round Length

Pattern cut for 24, 26, 28, 30 and 32 inch waist measures.

NEW fashions this spring continue to accentuate the long, slender lines in dress. Cut-in-one dresses keep right on being the mode, though many gowns are made with a separate waist and skirt, joined, however, at the waistline, to give the princess effect. Draperies are the fashion, though many of the skirts are merely trimmed to simulate a tunic. The majority of the princess gowns are worn with a short-waisted guimpe, or what the French call a "tucker." In colors, the chocolate shade with a reddish tinge to it is high style in Paris. Flowers trim the new hats, which have most conspicuous crowns, the brims being narrow.

No. 1275—One-Piece Dress With Tab Yoke

Sizes 6, 8 and 10 years.



No. 1093—Seven-Gored Walking Skirt With Pockets

Pattern cut for 24, 26, 28 and 30 inch waist measures. Length of skirt, 40 inches all around.

No. 1265—Yoke Waist With Buttoned Sleeve

Sizes 32, 34, 36 and 38 inch bust measures.

No. 1312—Yoke Waist With Tab Bertha

Pattern cut for 32, 34, 36 and 38 inch bust measures.

No. 1307—Gored Skirt With Plaited Insets

Pattern cut for 22, 24, 26 and 28 inch waist measures.

Nos. 1312 and 1307

HAVE you ever thought that it is a real art to put on your clothes correctly? Don't dress in a hurry—the careless woman is never the stylish woman. Don't focus your attention on one part of your costume and slight the other. Think of your dress as a whole. It is the ensemble that counts. Then if your neck is short and fat, don't wear a high collar. If your arm is either very fat or very thin, don't wear a skin-tight long sleeve. Wear the long sleeve, but have it full enough to disguise, just a trifle, the size of your arm.

No. 1319—Housework Dress in Princess Style

Pattern cut for 32, 34, 36, 38, 40 and 42 inch bust measures. Quantity of material required for medium size, or 36 inch bust, twelve and one half yards of twenty-four-inch material, or nine yards of thirty-six-inch material.

MADISON SQUARE PATTERNS

For every design illustrated on this page we will furnish a pattern for ten cents. The Madison Square Patterns are very simple to use. Full descriptions and directions come with the pattern, as to the number of yards of material required and how to cut, fit and put the garment together. The pattern envelope shows a picture of the garment. All of the pieces of the pattern are lettered, so that even if the collar in the pattern should look like the cuff, there is no possible way of mistaking one for the other, for each bears its own letter identifying it.

Send orders to the Pattern Department, FARM AND FIRESIDE, 11 East 24th Street, New York City. When ordering, be sure to comply with the following directions: For ladies' waists, give bust measure in inches; for skirt, give waist measure in inches; for misses and children, give age. Be sure to mention the number of the pattern you desire. Satisfaction guaranteed.

A distinctive feature of the Madison Square Patterns is the originality of their designs. They are always up to the moment in style and yet they are never extreme.

Copyright, 1909, by The

Madison Square Patterns

No. 1306—Semi-Fitted Cutaway Coat
Sizes 34, 36, 38 and 40 inch bust measures.
No. 1307—Gored Skirt With Plaited Insets
Sizes 22, 24, 26 and 28 inch waist measures.
No. 1308—Double-Breasted Waist With Deep Yoke
Sizes 34, 36, 38 and 40 inch bust measures.
No. 1309—Skirt With Tunic
Sizes 24, 26, 28 and 30 inch waist measures.

Skirts with draperies are again the fashion, and very graceful and lovely they are, carrying out, as they do, the long lines which are now the mode. A skirt made in this fashion is illustrated on this page in pattern No. 1309, Skirt With Tunic. It is made with a fitted circular underskirt, plain at the back; the graceful drapery is extremely long and is cut round, back and front, and slashed at the sides. There is just a slight fulness at the waist. Eolinne would be a desirable material to use for such a skirt, or any of the soft crêpe fabrics which drape so gracefully. Voile is another material suited to a skirt of this design.

The woman who is keeping her eyes open to the changes in the fashions will observe that though sleeves are still long and close fitting, there is just the slightest tendency of more fulness toward the shoulder. It is the exceptional sleeve, to be sure, but nevertheless it is the new one that shows a small shoulder puff, perhaps, or a scant little frill or two.

Many of the slightly trimmed tailored suits have bias bands of taffeta two inches wide down the front of the coat, around the armholes and down the side seams. This silk is held in place by a single row of the narrowest soutache. The same idea is repeated in a band four or six inches wide directly on the bottom of the skirt.

Buttons decorate such suits, but they are conspicuous for their scarcity in comparison with the past winter. However, crochet buttons are much used, especially for the French piqué and linen suits.

No. 752—Box-Plaited Russian Dress and Knickerbockers
Pattern cut for 2 and 4 year sizes. Quantity of material required for 4 years, four and one half yards of twenty-two-inch material, or two and one half yards of thirty-six-inch material, with one fourth of a yard of contrasting material for trimming.

No. 1320—Work Apron Buttoned on Shoulders
Pattern cut for 32, 36 and 40 inch bust measures—small, medium and large. Quantity of material required for medium size, or 36 inch bust, four and one half yards of twenty-two-inch material, or three yards of thirty-six-inch material.

No. 1200—Circular Skirt—Box Plaits Back and Front
Pattern cut for 24, 26, 28 and 30 inch waist measures.

No. 1284—Plaited Tailored Shirt Waist
Pattern cut for 32, 34, 36 and 38 inch bust measures.

No. 721—Square-Yoke Nightgown
Pattern cut for 32, 34, 36 and 38 inch bust measures. Quantity of material required for medium size, or 36 inch bust, four and one half yards of thirty-six-inch material, with one half yard of inserted tucking for the yoke, and one and one half yards of edging for neck and sleeves.

No. 1268—Plaited Dressing Sacque With Stole Collar
Pattern cut for 32, 34, 36, 38 and 40 inch bust measures.

No. 1268

MADISON SQUARE STYLE BOOK

Are you accustomed to see the style book of the Madison Square Patterns? If you are, of course you realize its value to you in making your own clothes. The new style book, better and bigger and more attractive in every way, is now ready. Be sure to send your order for it. Enclose four cents in stamps, and address your letter to the Pattern Department, Farm and Fireside, 11 East 24th Street, New York City.

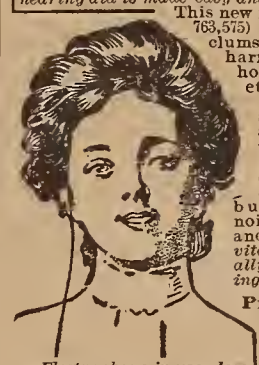
This style book will make you familiar with all that is newest in the spring fashions. It will tell you all about clothes for the little folks as well as the grown-ups. The smartest clothes any mother can make for her children are those from the Madison Square Patterns.

Here is our latest liberal offer: We will give any two Madison Square Patterns for sending two yearly subscriptions to Farm and Fireside at the regular price of thirty-five cents each. Your own subscription may be one of the two. When ordering, write your name and address distinctly. We will send Farm and Fireside one year, new or renewal, and any one pattern for only forty cents.

Do You Hear Well?

The Stolz Electrophone—A New, Scientific and Practical Invention for Those Who Are Deaf or Partially Deaf—May Now be Tested in Your Own Home.

Deaf or partially deaf people may now make a month's trial of the Stolz Electrophone at home. This is unusually important news for the deaf, for by this plan the *final* selection of the *one completely satisfactory hearing aid is made easy and inexpensive for everyone.* This new invention (U.S. Patent No. 763,575) renders unnecessary such clumsy, unsightly and frequently harmful devices as trumpets, horns, tubes, ear drums, fans, etc. It is a tiny electric telephone that fits on the ear, and which, the instant it is applied, *magnifies* the sound waves in such manner as to cause an *astonishing increase* in the *clearness of all sounds.* It overcomes the buzzing and roaring ear noises, and also so *constantly* and *electrically exercises the vital parts of the ear that, usually, the natural,* unaided *hearing itself is gradually relieved.*



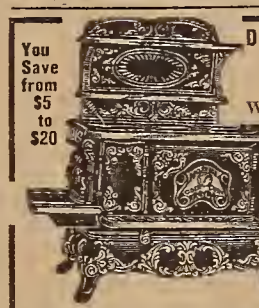
Electrophone in use—less conspicuous than eye-glasses.

Prominent Business Man's Opinion

STOLZ ELECTROPHONE CO., Chicago.—I am pleased to say that the Electrophone is very satisfactory. Being small in size and great in hearing qualities makes it PREFERABLE TO ANY I HAVE TRIED, and I believe I have tried all of them. I can recommend it to all persons who have defective hearing.—M. W. HOYT, Wholesale Grocer, Michigan Ave. and River St., Chicago.

Write or call at our Chicago office for particulars of our *personal home test* offer and list of prominent endorsers who will answer inquiries. Physicians cordially invited to investigate. Address or call (call if you can).

STOLZ ELECTROPHONE CO., 1797 Stewart Bldg., 7th Floor, Chicago
Branch Offices: Philadelphia, Cincinnati, Indianapolis, Louisville, Pittsburg, Los Angeles, Seattle, Des Moines, Toronto.
Foreign Office: 82-85 Fleet St., London, Eng.



You Save from $5 to $20

DIRECT from FACTORY at Wholesale Prices, Freight Paid

We guarantee safe delivery, all polished and ready for your home. Furthermore, after A Whole Year's Trial if not satisfactory you may send it back and we will refund all your money. This is our standing offer, warranted by nearly 50 years in making

GOLD COIN STOVES AND RANGES

This is an unusual opportunity to get a High Grade stove at a low price. Send to-day for Our Illustrated Catalogue of ranges and stoves. A postal will do.
GOLD COIN STOVE CO., 8 Oak St., Troy, N. Y.
(Successor to Bussey & McLeod—Established 1860)

What Do You Want

for your home? Every home needs new furnishings now and then. Let me tell you how you can get whatever you want, without cost. From a sewing machine to silverware, Farm and Fireside will furnish everything. All you have to do is to acquaint your neighbors and friends with Farm and Fireside. Send a postal **to-day** for full particulars and our big Reward List containing 300 illustrations, to

JOHN L. THOMPSON, Secretary
The Million Club
FARM AND FIRESIDE Springfield, Ohio

POST CARDS 25 10c

Fine art cards beautifully colored. Flowers, Landscapes, Pretty Girls, Love Sets, Birthday and other choice cards. All different. No comics. The kind that sell for 3c to 5c each. Large illustrated catalog showing 2500 latest cards at lowest prices—FREE.
HOMER GEORGE CO., Dept. 20 CHICAGO.

Agents Wanted

AGENTS wanted everywhere. 30 days' credit. PORTRAITS, 30c. FRAMES, 15c. Work guaranteed. SAMPLES AND CATALOGUE—FREE. GIBBS PORTRAIT CO., 1180-82-90 Harrison St., Chicago.

AGENTS PORTRAITS 35c, FRAMES 15c, sheet pictures 1c, stereoscopes 25c, views 1c. 30 days credit. Samples & Catalog Free. Consolidated Portrait Co., 290—81 W. Adams Street, Chicago

JUST OUT Low priced, 3-lb Mop: turn crank to wring; hands keep clean. Women all buy; 150% to Agents; exclusive territory given; catalog free.
U. S. MOP CO., 477 Main St., Leipsic, Ohio.

AGENTS NINE IN ONE
$75 monthly. Combination Rolling Pin. Nine articles combined. Lightning Seller. Send for Sample. FORSHEE MFG. CO., Box 205, Dayton, O.

AGENTS 12 Tools in One HANDY
wanted to sell this most complete of all combination tools. Serves as stove-lid lifter, screw-driver, wrench, hot pan lifter, tack hammer and puller, and 100 other uses. Sells at sight to farmers, storekeepers, in homes, offices, etc. Write today for our FREE OUTFIT OFFER to workers.
T. THOMAS MFG. CO., 205 Barney Block, Dayton, Ohio

$18 to $30 A WEEK SURE

Farmers "Ever-Ready" Tool Kit does it. 10 TOOLS IN ONE
Agents going wild over results. M. Snyder made $46 in 2 hrs. Joseph Pine took 65 orders in two days. M. D. Finch sold 42 in 9 hrs. Had no experience. You can do it. To show it means a sale. FREE SAMPLE to workers. Foote Mfg. Co., Dept. 801 Dayton, O.

Darning Made Easy!

Stockings, linens, laces, etc., mended on any sewing machine. No more tedious hand work. Any child can do it. AGENTS WANTED.
POST FREE 35¢
MONEYBACK SUPPLY COMPANY
Box 292, Woonsocket, R. I.

Our Young Folks' Departmen

How to Start a Flower Garden in Apri

By all means, boys and girls, start a flower garden this month. You who have had gardens from year to year will need no urging, but you others, who have never yet tried your hand at gardening, do begin right away and plan for some spot all your very own, where you may see "green things growing." There is a fascination in sowing the seed, watching the plant gradually come up out of the soil, and tending it carefully until the blossoms appear, that is not quite like anything else I know of.

Now the first step in starting a garden is to decide on your plot of ground. Perhaps off at one side of the house, in the meadow or orchard, there is a level plot of ground, shaded at some part of the day, where the soil is fine and rich and loamy. As soon as the frost is out of the earth, take out your spade and rake and dig up the ground to a depth of about ten inches. Throw out all the stones and chop up the hard lumps until the soil is all soft and fine. Mix manure and a little sand in with the soil and toss it all up together. The sand prevents the soil from becoming hard and dry in the hot summer sun. In laying out your garden, begin with a definite plan in drawing. You might have a square, a round, a diamond or a star shaped bed in the center, with smaller beds surrounding it, or perhaps you would decide on just a long, narrow strip of ground. Wait until after a warm spring rain before planting your seeds, so that the ground is soft and moist. The seeds should be sown in drills about two inches deep and the ground should be kept moist (but not too wet) until the first slender green shoot appears above the ground.

In planting seeds or bulbs, be sure to have the tallest plants in the middle of the bed and gradually slope them down to a border of some low-growing flower. Never make the mistake of planting your seeds haphazard or you will be greatly disappointed with the result. Also keep in mind a certain color scheme. Plant white or pale yellow flowers next to blue, purple or dark red, but on no account place the purple and red together.

A little friend of mine who is a most enthusiastic amateur gardener and whose flowers are the delight of all her playmates made what she called a "Flag Garden" last year. It was an experiment, she told me, and the result was such a beautiful success that I want to tell you about it.

Of course, our own glorious American flag was there—the largest and the most lovely bed of all—and surrounding it were the flags of France (three vertical stripes of red, white and blue); Denmark (a red field with a white cross on it); Japan (white field with a red disk in the center); Spain (a yellow field with two red horizontal stripes), and the flag of Greece (somewhat like our own flag, but with four white and five blue stripes and a square of blue with a white cross). Perhaps it would be a good plan for you to get out your geographies and look at these flags.

The six flags were arranged in a semicircle on a velvety grass plot, and when the blossoms came, with their rich color and sweet perfume, the garden was almost too lovely for description. If you decide to have a Flag Garden, be sure to select low-growing plants, such as dwarf phlox, portulaca, sweet alyssum, etc., and stake out the design of the flag before planting the seeds. Do not allow the plants to grow straggly; if they show signs of overrunning the stakes, clip them and keep them within bounds.

Working Away in Her Flower Garden

Down at the side of the barn or along the fence in the orchard is a very good place for your garden. The barn or the fence is an excellent backing for tall-growing plants, such as hollyhocks, columbine, golden glow and sunflowers. Columbine begins to bloom in May and continues for a month; hollyhocks bloom from July to August; golden glow starts blooming in July and lasts until autumn, and so does the sunflower.

Next, in front of these tall flowers plant those of medium height—zinnias, petunias, dahlias, marigolds, asters, dwarf chrysanthemums and scarlet sage.

The low-growing flowers, such as verbena, ageratum, portulaca, sweet alyssum, candytuft and pansy, are best used as borders.

Sweet peas are rather hard to raise and the beginner should take special pains with them. Dig a trench eight inches deep; put in three inches of manure on the bottom of the trench, and tread it down firmly. Then put in two inches of good, rich soil. Now sow a row of seeds and fill the trench with fine soil sprinkled heavily with manure. Be very careful that the manure does not touch the seeds, for it will rot them.

Do not forget to plant plenty of nasturtiums—in tubs, in old tin pails and kettles, and the stumps of cut-down trees—for they are the garden's best friend, and in return for ever so little care will bloom riotously from July to October.

The gardens should be watered every day after the sun has gone down, and all weeds should be removed. Two tablespoonfuls of fine pulverized bone or wood ashes stirred in lightly around each of the plants will improve their flowers.

Gravel paths are easily made and can be kept free from weeds if sprinkled with salt or brine.

Encourage the bees, the birds, the butterflies and the toads to live in your garden, for they are as welcome and as needful to plant life as sunshine and rain.

Cousin Sally's Easter Letter

Dear Boys and Girls:—Hearty Easter greetings to you all, dear cousins. We all know what Easter means, don't we—the day that commemorates the resurrection of Christ. It is a beautiful story and one that we all love to think about. The very name "Easter" suggests joy and new life, and I trust that yours will be one of happiness and exceeding joy. Just think, it is nearly two thousand years since the first Easter, and since then many superstitions and fancies have been associated with this joyful day.

In Germany the children look forward to Easter with great anticipation, for they are taught to believe that if they are good, obedient children the whole year through, a white hare will visit the house on Easter Eve, when every one is fast asleep, and leave varicolored eggs in out-of-the-way places. And what noise and confusion there is in the morning when the children awake! They go scampering from one room to the other, hunting for the egg that the white hare has left, and great is their joy when they find a bright-colored one bearing their name, which from all appearances was written by the white hare itself.

The children in Anglesey, North Wales, go from house to house from Monday to Saturday of Easter week, rattling a clapper, so that each door may be opened to them, and in they go to see if they can find any eggs about the house. If they can find none, they are generally satisfied with a few coppers instead. Even in Russia the Easter egg is strongly in evidence. When the people go out Easter morning they carry a number of eggs with them, which they present to their friends, saying "Christ is risen!" the recipient replying, "He is risen indeed!"

Then there are many popular Easter games which are still in existence to-day. One is to roll eggs down a hill or slope, and those that reach the bottom uncracked are of course victorious over the others, signifying that the person who rolled the eggs was the stronger contestant. On Easter Monday the children gather on the White House grounds and roll Easter eggs down the slope, and it is fun to watch them as they start their gaily colored eggs trundling down the hillside.

And then there are ever so many quaint superstitions connected with Easter. In some countries the people believe it is unlucky not to wear something new, but of course there are very few Americans who are superstitious on this point. One of the oldest superstitions of all is that the sun dances in the heavens on Easter Day. In Scotland the sun was expected to revolve like a wheel and give three leaps. There was much importance attached to rain falling on Easter Day, for according to an old proverb:

A good deal of rain on Easter Day
Gives a crop of good grass, but little good hay.

And so it goes. But to come back to the starting point, Easter is a day we should all love. It is a day of great rejoicing, a day of sunshine, of flowers, it is God's own day.

Good-by for the present, my little friends. May a happy Easter Day be yours. Write to me soon. As ever

Lovingly, Cousin Sally.

Monthly Prize Contest

Instead of confining the contest to one subject, I have chosen three, which call for stories, verse and drawings.

Write your story in ink and on one side of the paper, and do not make it longer than three hundred words. The poem may be four stanzas long.

Stories. Subjects: "Tom's Bravery," "The Ball of the Fairies."

Verse. Subjects: "The Daisy Field," "Morning," "Down by the Brook."

Drawings. Subjects: "The Little Fisherman," or any beautiful summer scene.

To the six boys and girls sending in the best work on any of these subjects, Cousin Sally will give prizes as follows: Sailboat, box of paints, a book, a postal-card puzzle, a set of dolls' furniture.

All work must be sent in before April 20th. Address Cousin Sally, care of Farm and Fireside, 11 East 24th Street, New York City.

An Easter Surprise

By Cousin Sally

This is happy Easter Day,
For all the little birdies gay
Are singing to their hearts' content,
As though they knew what Easter meant.

All the budding, hopeful trees
Swaying in the gentle breeze
Seem to murmur, with the lake,
"It's Easter Morn! Awake! Awake!"

My mother says each Easter morn,
And many years 'fore I was born,
That bunnies always make a call
And leave an egg by the garden wall.

So by my garden wall I'll go
To see if mother's story's so.
It's true! It's true! Oh, goodness me!
For bunny's been and left me three!

One is white and one is blue
And the other's red—for sister Sue.
I guess kind Mister Rabbit knew
How much I love our flag, don't you?

The Soul of Honour

[CONTINUED FROM PAGE 22]

Synopsis of Previous Chapters

Marcus Quinten, impecunious and unworthy, but eir to the title and wealth of his cousin, and Jack aunton, wealthy and honorable, fall in love with ady Hyacinth Windermere. Her parents favor the rmer because of his prospects. They know nothg of the latter's immense wealth, and Quinten oncealed the fact. The story opens at Ascot on up Day. A woman at the gate of the paddock ccosts Quinten as her husband. He repulses her, saying that the marriage was false, and leaves her. She faints, and is befriended by Jack Taunton. Taunton learns Honour Read's story, and bow she was deserted on the wedding day, and he urges Quinten to marry her. He refuses point blank. Taunton is refused admittance to Hyacinth's home, but meets her at the home of her cousin. She loves him, but says she must follow her parents' wishes. Taunton, failing to persuade Honour Read to expose Quinten to Lady Hyacinth, secures a position for her with Quinten's cousin, who is a misogynist, and requires a secretary who will not intrude on him personally, and therefore sends all his instructions by his valet. Honour feels that this cannot continue, and writes a note to Lord Vannister requesting him to give her a short interview, so that she may discuss the work assigned her. The following morning Honour receives a reply from Lord Vannister and goes into the garden to read it. She is angry and indignant at the note, and in her rage sobs out, "I hate him! I hate him!" At that moment she hears a low laugh at her side, and raising her head with an angry jerk, faces the intruder. She is startled to learn that the stranger is Lord Vannister, her employer. Sbe then tells him the sad story of her life. Lord Vannister's sympathy is immediately aroused and he asks Honour if she will still remain as his secretary. In the meantime Marcus Quinten, who is down to his last penny, tries to borrow more money from Jack Taunton. Taunton refuses. A stormy scene ensues, and Quinten, enraged, leaves the room. Since his credit is everywhere exhausted, he is forced to go to Lord Vannister for a settlement, in order that he may marry Lady Hyacinth. Here he meets Honour, who Lord Vannister introduces as his wife. They both stand dumbfounded, and Lord Vannister, noticing their confusion, leaves them alone. Left alone, Marcus begs Honour to plead with Lord Vannister to make a settlement on Lady Hyacinth. During their conversation Lord Vannister passes by the window and sees Marcus kiss Honour's hand. He becomes jealous and asks Honour if she had met Quinten before, but she denies having known him.

knew," Jack said. "One I kept back out of pride, and the other from a mistaken sense of honor. Well, now I'm going to make a clean breast of the two. It won't be easy, child, it will cause a regular cyclone in a small way, but I've got to do it—that is, if you really mean it, if it is the real thing and no mistake, as it is with me."

"It is the one reality," she said firmly, "in the world. I knew it when you came into the hall to-night, and I know it now more than ever.

After that Hyacinth started to find herself suddenly addressed across the table by her mother.

"You are eating nothing," said Lady Windermere. "I think Marcus should have been beside you to take care of you."

"I'm not very hungry, mother," she retorted.

Lady Windermere heard the note of veiled defiance in the girl's voice, and wisely said no more. It was quite the most unlucky thing that could possibly have happened, she reflected, that this Taunton should have turned up so inopportunely. At that moment she actually hated what she called "this out at elbows Colonial," who was the one man who had ever excited her docile daughter to rebellion. Lady Windermere had scant belief in the "call of the heart." London had taught her another and a lower creed.

Jack found one chance more ere the dinner ended, and he seized it desperately.

"Everything depends on your loyalty," he said gravely. "Even if you do not understand the way I take to free you, will you stick to me? You may be shocked at the weapons I shall have to use; you were once when I suggested them, but I shall go to work differently this time, and anyhow believe that all I say is the truth and all I do is justified. Can you trust like this? Because, if not, the game is too risky to play if I lose you at the finish."

"I will trust you through anything," she said.

"Bless you, my rosebud," he said.

Lady Vannister, with what he interpreted as a warning glance at him, gave the signal for departure. He sprang to open the door for the ladies, and as Honour passed out, last of all, he bent forward and spoke to her hurriedly.

"Can I speak to you?"

She stared in a moment's surprise, then nodded.

"Yes, presently, but be careful, Mr. Taunton."

As he closed the door behind the trailing laces of her gown he found himself next to his host.

"I wish I had your knack of interesting people, Taunton," he said disagreeably. "Lady Hyacinth had no attention to spare for any one else. You will have my cousin calling you out if you are not careful."

The words were not pleasantly said, although they were spoken in a low voice.

Jack gave a cool laugh.

"I had something particular to say to Lady Hyacinth, just a little secret, if you like."

"So I see. You had something particular to whisper to Lady Vannister also."

"Yes; why not?"

"I'm not fond of secrets, Taunton," said Vannister pointedly, "and I've a fancy for knowing my wife's—"

The two men looked at each other, both honest glances and both defiant.

"If I had the honor of being the husband of that peerless woman," said Taunton, "I think I'd trust her with my secrets and her own, too."

Vannister gave a little sarcastic bend of the head, but on the whole he preferred the direct attack.

"You do not quite take my meaning," he said calmly. "I need hardly tell you who know her that I trust Lady Vannister with the uttermost trust which one human being can give another, but I hate mysteries, and she it seems is partial to them."

So saying he turned away. Taunton saw deeper into the meaning of his words than he supposed. He knew him to be above vulgar, causeless jealousy, but he guessed that Honour had told him some, and not all, of the past, and he also guessed that his love was of that passionate, exacting kind which claims the past as well as the future of the loved one.

But his own purpose did not waver. Rather it grew and strengthened, and as he looked across the room at Marcus his eye lightened. Well, he would not be long in coming to grips with him now.

An hour afterward found him at Honour's side.

"Can I speak to you now?"

She looked around her fearfully. "It ought not to be difficult," she said, "but Guy, my husband, guesses that I am keeping something from him. Oh, I can't explain matters to you here, but I have made some great mistakes."

"I have guessed," he said. "Look here, I hate to trouble you, but there's a matter which must be cleared up. Lord Vannister and Windermere will get to business soon about Hyacinth's engagement and I've got to be beforehand with them. Come, find a way, please."

Looking at him she saw the set purpose in his face. Saw, too, that there was no trifling with it. An unknown factor had stepped into her plans, and was whirling them aside like things of straw.

A helpless feeling came over her. They were standing by one of the French windows which led onto the terrace, and it was partly open to allow the air of late summer to cool the room, for October had not yet come and the weather was still fine. Turning her head she saw that her husband was not in the room, but had wandered with Lord Merrincourt into the further one. Now was their chance.

She took it; pushed the window wider and stepped onto the terrace, inviting Taunton by a slight gesture to follow her.

He obeyed instantly. The dusk of an early autumn evening enveloped them both in a kind of gray-green translucent semi-darkness, which half hid and half revealed the copper and purple and green-gold tints of the distant foliage.

Honour stepped down the terraces at his side until they reached the center basin where through the dusk they could see the water lilies floating dreamily.

"What is it?" she said.

His reply was another question.

"Lady Vannister," he said, "forgive me, I must ask you. How much have you told your husband of that sad episode in which no blame attaches to you?"

"The outlines only. No names," she answered.

"He does not know that Marcus was the man."

"No, oh, no!"

"Why not?"

"Because he would cast him out and prevent his marriage, and because I told you I did not seek for a personal revenge."

"Neither do I wish to seek a personal revenge," said Taunton gravely, "but that marriage, Lady Vannister, has got to be stopped right here and now, and there is no other way to stop it that I know of."

Honour trembled. "What do you mean," she asked, below her breath; but even as she asked she knew.

"I mean this," said Taunton steadily, and through the gray dusk he looked into her deep eyes. "You have got to expose Marcus Quinten to your husband by telling him what you know."

He looked eagerly at the woman by his side, and life seemed to cease as he waited for her answer.

[TO BE CONTINUED]

Anybody Can Kodak

There's no longer anything complicated about photography. From pressing the button to developing the negatives, every step has been made simple, easy. By the Kodak system it is daylight all the way. No dark-room is needed for loading, unloading, developing or printing, and all the processes have been so simplified that the merest beginner can take and finish the photographs with good results. The Kodak tank method of development has, in fact, so fully proved that skill is not necessary in development that thousands of professional photographers, in spite of the fact that they have the skill and have the dark-room facilities, are using the tank system of development for all of their work. Anybody can Kodak.

And there are interesting pictures everywhere, pictures that you can take and that you and your friends would enjoy having. Ask your dealer or write us for a copy of "*The Kodak on the Farm.*"

EASTMAN KODAK COMPANY,

382 STATE STREET ROCHESTER, N. Y.

STEVENS

The kind of a boy that will grow into the right kind of a man is a boy who likes his Stevens Rifle—

Likes the good wholesome out-of-door sport it brings.

As a target gun it is unexcelled. The world's championship shots prefer it. As a sure, never-failing arm for small game it has no equal. Just the thing to rid the farm of all kinds of pests.

Send for Stevens catalog—learn how thoroughly good all Stevens guns are—Rifles, Shotguns, Pistols—and how moderate in price. 6c. for postage brings the catalog. And your boy will like

"GUNS AND GUNNING"

a book by Dan Beard, full of hints on hunting and shooting, choosing and caring for a gun, etc. Sent postpaid for 20c. paper cover, or 30c. cloth cover, stamped in gilt.

Little Scout	$2.25
Stevens-Maynard, Jr.	3.00
Crack Shot	4.00
Little Krag	5.00
Favorite, No. 17	6.00

Ask your dealer and insist on the STEVENS. There are no substitutes. If you cannot obtain, we will ship direct, express prepaid, upon receipt of catalog price.

J. STEVENS ARMS & TOOL COMPANY,

265 Grove Street,
Chicopee Falls, Mass. U. S. A.

Farm Notes

Farm or City

A boy, who says he lives on a farm and has long been a reader of Farm and Fireside, issues a declaration of independence and says that just as soon as he reaches his majority he will shake the dirt of the farm off his feet and hie to the city, "where merit is recognized, and one can work himself up amid high-class surroundings to a good, paying position, where he can wear good clothes and look neat and respectable all the time instead of only on Sundays," etc.

There are lots more like him. They want to wear nice clothes and appear natty all the time. Their idea is to be a salesman in the necktie or suspender department of some great store, gradually climbing, à la novel, to the ownership of the store. The boy who gets this idea into his head is better off the farm than on it. He will have to get a taste of city life, and he may wake up and be successful in working up to a good position, and he may find he has made a mistake, and return to the farm. The best that can be done with him is to let him try it.

In direct contrast to this boy's letter is one from a man, who says he is fifty-six years old, went from the farm to the city when he was twenty, and has never been able to leave it until just now. During the past ten years he and his wife have been saving every penny they could to enable them to buy a small tract in the country, where they might spend their last days in the sunshine and fresh air, far away from the rush and roar of the city. They have now secured just the spot they desired, ten acres one mile from a thriving town. One acre is covered with a young growth of natural forest, and the rest is good land now in meadow. They have built a neat little house and are now living there and planning how they shall fix for raising vegetables and poultry. He says the birds are singing in the grove close by the house, and they think the music is a hundred times sweeter than any they ever heard in the city. He is a little in debt, but is about to sell five acres of the land to a farmer, and this will clear off the debt and leave him all the land he needs and a small amount of surplus cash. Having told me this, he asks me a large number of questions.

The young want to go to the city, and many of the old want to get away from it. Those who stay away from it will find as they grow in years, and learn how most of their young friends who went to it fared, that they did the right thing. I know an old couple who went to one of our large cities when they were young. Like most youngsters, they were enthusiastic and determined to succeed. Within two months both secured positions and worked diligently to reach to higher wages as soon as possible. After two years they found themselves just about where they started, and nothing better in sight. One cold, stormy night in mid-winter they sat in their little room talking about the events of the day, when the woman said, "We are not getting ahead very fast, are we, John?" After a few moments of silence John said, "No; and I see nothing better ahead. Let's go back to the sunshine, and trees, and birds, and flowers, and the soil, and begin again!" She said, "I am more than willing! We'll go when spring comes." And they did. They bought forty acres of land, paying part down, and in a very few years the balance. There they have lived, content, happy, steadily adding to their savings, until now in their old age they are far beyond the reach of want. Whenever the two years in the city is referred to they are termed "The two years we wasted." But I don't think they were wasted. During those two years they learned the lesson that made their fortune—brought them to their senses and back to the soil.

Fred Grundy.

Growing Potatoes—Selecting Seed

It has become quite well known by potato growers that the quality and quantity grown depend to a large extent upon the depth planted, varying in different seasons and with different soils. We aim to have our ground well plowed in the first place, then thoroughly harrowed and cultivated.

We have found that in a great many instances, where only a spring-tooth harrow is used in fitting the ground, there are places not thoroughly worked up, especially on sod ground. In places where the sod is very tough the teeth will spring up and slide over them, hence the work done with these implements is often deceptive. We find the best tool for this purpose to be a two-horse cultivator. By setting the teeth properly, the ground will be worked as it should be.

Very likely there are many pieces of potatoes that are planted too near the surface, especially in dry seasons. The potato finds its most congenial resting place in a depth of soil sufficient to shut out the extreme heat of the sun, and when down at the proper depth are generally smooth and round. We may be ever so careful in hilling a piece that has been planted shallow, but they will be more or less pushed out when the sun will get to them and turn them green. The ground should be plowed and worked down to a sufficient depth to give the potatoes plenty of loose soil to grow in.

Another matter that is seriously overlooked by the average farmer and potato grower, and that is in the selection of the seed. Whether the crop is good or bad, as a rule the inferior tubers that are not salable are used the following year for seed. It is well understood by those who have given the matter close attention that no crop grown requires more care in the selection of seed than the potato does.

A potato to be just right to plant should be as solid and juicy when put in the ground for seed as when it was taken out in the fall. A potato that is planted early, so it ripens, say, in July, can hardly be kept so it will be in proper condition to plant the next season and for this reason I believe that for seed purposes it pays to plant late in the season. As a general thing we get some rains during the fall that help the crop along, so we can grow a larger crop planted late than early; and then with us, for the past three or four years, potatoes planted late have not been affected by blight nearly as much as the early crop.

Another advantage in growing a late crop is that they are protected by the tops in the hottest weather, and they will be dug after cool weather comes, instead of lying in the ground unprotected from the heat during the hot days of July and August; and when dug in cool weather they may be more easily kept like fresh-dug potatoes until the next spring for planting. This kind of seed if properly kept through the winter will yield at least one third more than the early grown and improperly kept seed, so why not grow some potatoes late just for seed, and select from the most vigorous hills?

The thrift of a potato plant depends very much on the amount of moisture that the seed contains. If the seed is shriveled and badly sprouted the growth is apt to be less vigorous and the crop decreased. Early potatoes are often killed by hot weather, and before it is time to dig and put them in the cellar they begin to shrivel and wilt. These I consider almost worthless for seed purposes, for it is impossible for such seed to supply the required moisture to start them into a thrifty growth.

New York. V. M. Couch.

IN THE BACK OFFICE

The March 10th issue of Farm and Fireside marked a mile stone on its long and useful career. To be more definite, the editorial on page 26 marked this mile stone. It might be compared with the volley which opened our Revolutionary War and was called "the shot which was heard around the world."

Do you know what it means? It means that Farm and Fireside is going to do man's work for some months to come—it is going to show you how *you* can do man's work shoulder to shoulder with us to your own everlasting benefit, and to the benefit of your children after you.

This is no visionary ideal which we are stalking after in the clouds. It is no network of fine theories which won't hold water. It is just plain practical truth and justice which we are going to bring to pass—and make no mistake, all of us are going to see it come to pass.

The way to bring these things to pass is not by complaint and lamentation, is not by "kicking" and hammering heads with a muck-rake. It is simply to throw daylight into all dark places with a cheerful faith and optimism—optimism born of the conviction that sooner or later the conditions that the American farmer is entitled to are bound to be brought about.

CONGO ROOFING

THE GUARANTEED ROOFING

One of the most attractive features about Congo is that you get a genuine Surety Bond with *every roll.* This Bond is issued by the National Surety Company. *Every* roll of 3-ply Congo is guaranteed for a period of *10 years.*

Thus you are protected for a long time by the strongest guarantee ever issued, backed by a Surety Company whose bond is as good as the Government's.

That Congo is made of the right stuff—durable and lasting, is attested to by the fact that the Surety Company was willing to back it, and for so long a period.

Congo is really a better purchase than ever before.

In addition to the Surety Bond, we furnish with every roll *galvanized caps* instead of the tin caps or nails supplied by others. The galvanized caps can't rust or bend or break. Liquid cement is also furnished free.

We mean to get the roofing trade of the country and think these *special features* will come pretty near landing it.

Send to-day for free Sample of Congo and a copy of the Guarantee Bond.

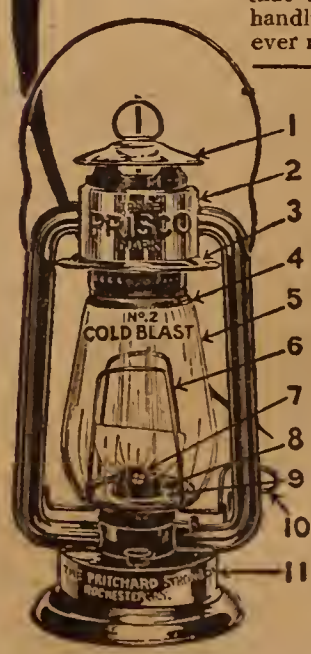
UNITED ROOFING AND MFG. CO. Successor to Buchanan Foster Co.
553 WEST END TRUST BUILDING, PHILADELPHIA, PA.
CHICAGO SAN FRANCISCO

"PRISCO" COLD BLAST LANTERNS DON'T SNEEZE

One lantern is not as good as another.

Read below a few of the points that make Prisco Lanterns better than the ordinary kind.

The result is a lantern without a weak spot—one that doesn't "sneeze," spit, sputter or go out at the slightest excuse, and that is easy to handle and will stand a deal more handling than even the hardest kind of service will ever require of it.



1 This dome sheds water—prevents rusting of tin.
2 Patented wind-break inside of solid one-piece dome. "A Prisco Lantern don't sneeze."
3 The heavy flange plate with incurled edges sheds moisture.
4 Reinforced metal here—no raw edges to cut or scratch the hands.
5 Heavy, specially selected Prisco globes—crystal clear.
6 These wire clamp guards hold globe secure when tilted back for trimming wick or cleaning burner.
7 Large brass burner, with one-inch wick ready for lighting. Not a cheap tin burner.
8 Patented flame expander gives 25 per cent more light.
9 The horizontal perforations in globe-plate keep wind from striking flame—therefore, prevent flickering.
10 Lift is positive and entirely behind tube—does not project to catch on clothes, obstacles, etc.
11 Larger, stronger oil fount—contains more oil, lasts longer, makes lantern burn better.

Send for Our Free Booklet

It not only tells why Prisco Lanterns don't sneeze but it has page after page of facts and information about lantern uses and lantern care that will interest you.

THE PRITCHARD-STRONG CO.
6 Circle St., Rochester, N. Y.

WESTERN EDITION

ESTABLISHED 1877
The Illustrated Farm and Family Journal

24 NUMBERS 35 CENTS

LIBRARY

Vol. XXXII. No. 14 Springfield, Ohio, April 25, 1909 Terms { 1 Year, 24 Numbers, 35 Cents / 4 Years, 96 Numbers, $1.00

Profitable Forestry on the Farm

Forestry in Ohio

There are many problems in forestry that need solving in the near future if our state is to begin in time to look to the conservation of this, one of the greatest of our natural resources. The first of these is to convince the wood-lot or forest owners that they have in these wood-lots an asset of the farm that can be made permanently profitable.

Aside from this money value, the time will never come when a well-stocked wood-lot will not be a great convenience upon the average farm, in spite of all the substitutes that may be found for timber in future years. Whether our decreasing forest area has in any way modified our climate or changed the amount of our rainfall is an open question. No doubt the large forest area was beneficial as a wind-break and that we feel its force much more than in former years.

But a much more serious result, especially in the hilly parts of our state, is that the hillsides, where the water was formerly held back by the forest carpet of leaves and mellow soil, and allowed to slowly reach the valley, carrying with it the decaying vegetable matter to enrich the farms, now send down streams almost as rapidly as from a house roof, carrying, instead of rich mold, clay and gravel to cover the rich soil along the river valleys, causing also, by this rapid running off of the water, much more disastrous floods than in former years.

This phase of the question, however, does not appeal to the farmer or wood-lot owner, because its solution is beyond the power of the individual, and if the headwaters of our streams are to be protected by forest cover it will have to be done by the state or at least under state control. But if it can be demonstrated that the planting of trees or the care of remaining wood-lots can be made at least reasonably profitable, then the farmers of Ohio will do the work, and the problem of forest preservation will be in a fair way to be solved.

Forestry work in Ohio so far has developed along two lines: first, the planting of young trees of various kinds for post and pole timber; second, the care and restocking of existing wood-lots with valuable kinds of our native timber.

To show that already much progress has been made in tree-planting, we wish to call attention to the work of the experiment station. Nearly six hundred and fifty thousand trees have been planted under its direction in the various counties, and reliable estimates show that at least one million trees have been planted by private landowners outside of the work of the station, and this has all been done in the last six years. The planting of these quick-growing post timbers has been taken up first, because it promises much quicker returns and probably larger yearly profits than any other forestry work. But that it is far from being the most important work is recognized by the state forester, and he is very wisely conducting a campaign of education among the wood-lot owners, endeavoring to show the possibilities of such wood-lots when fully stocked with a variety of native timber trees.

Horatio Markley.

A Letter With Pith

We are receiving enough letters of a like nature to make us sure that there are *glorious times* ahead for all of us.

March 26, 1909.

Editor of Farm and Fireside:—

Your editorial on "What's the Matter With the Farmer?" in issue of March 10th, with Mr. G. C. Streeter's article on the same subject, in March 25th, certainly does extend to the root of the trouble. They should be read and pondered over by every farmer in the land. Farmers are too lethargic, and too poorly informed as to the true source of their financial ills, and the corporate interests wish them to remain so.

Your promulgation of the Davis Bill places Farm and Fireside in a class by itself as touching on matters of vital interest to the tillers of the soil, and I have already addressed a letter to my congressman asking him to work for its passage.

I am sending your paper to my neighbors in an effort to arouse their interest to their own welfare. If they would only realize the sterling worth of Farm and Fireside as I do, you would soon have every one of them a subscriber. And then it would be but a short time until they would come into possession of their own, for you tell them how to go after it.

I commend you in the cause you so ably espouse, and trust you will sound the bugle call until every son of the soil will answer here to do battle.

Kentucky. A. W. Hord.

The Farm Wood-Lot

This is surely a timely topic, but so many farmers are not woodmen enough to plant out wood-lots. But many already have valuable young wood-lots if they would only care for them.

Instead of cutting, burning and destroying the bushes, if they would only thin out the useless species, together with old gnarled, crooked trees, they would soon have a very valuable young growing wood-lot. We know one man who burns over his woods each season; the result is he has hickory bushes and briers, while just across the fence are hardy young sugar, mulberry, walnut, ash and many others.

In order to let the better species have a chance, we went through our woods and cut dogwood, ironwood, water-buck and other scrubby species.

Some people despise "bushes," but we must remember that the bushes grow into mighty trees if given a chance.

Omer R. Abraham.

Primped and Posed for a Pretty Picture

Asked and Answered

Questions of Interest to the Practical Farmer

Mixing "Floats" With Manure

FARM AND FIRESIDE:—Will you please answer the following questions through the columns of your valuable paper?

I received a circular from a ground-rock fertilizer company in Tennessee in which they recommended the mixing of their fertilizer in the manure as it is made, at the rate of two pounds a day per head, with the claim that the action of manure on the fertilizer will loosen the phosphoric acid that it contains. Would this give satisfaction where the manure is tramped down in the stable by the cattle during the winter, and remains there until fall, when it is used to top-dress wheat ground? J. J. R.

Ohio.

There is no doubt that mixing the ground phosphate rock (or "floats," as it is sometimes called) with the manure does in some way change the material so that the phosphoric acid is more available than it is in the natural rock. The phosphate rock is practically useless as a fertilizer when applied to the ground directly, but the action of the decaying manure seems to have something of the same effect as the treatment of the rock with acids, as is done in the manufacture of superphosphates. The longer the "floats" remain in contact with the manure, the more available the phosphoric acid becomes, so the method suggested above ought to be very good, so far as the action of the manure on the "floats" is concerned. It is a very doubtful practice, however, to store manure so long as the subscriber states. Manure should be taken to the field as soon as possible, and the rational place to apply it would seem to be to the land to be plowed for corn.

No matter where the manure is used, it will certainly pay to reinforce it with a phosphate material of some kind. The ground Tennessee rock gives excellent results, but all the experiments up to date indicate that a little higher net yield can be obtained from mixing acid phosphate with the manure in the manner suggested in the letter.

In a trial at the Ohio Experiment Station a net profit of $3.96 was obtained from one ton of stable manure, while another ton, to which forty pounds of ground phosphate rock had been added, gave a net profit of $4.20. In the same experiment a ton of manure to which forty pounds of acid phosphate had been added yielded a profit of $4.57. These results are shown in the accompanying illustration, where the lot on the right represents the yield of clover, corn and wheat from one ton of yard manure, the next lot from one ton of stable manure, the next from one ton of the same quantity of stable manure treated with forty pounds of "floats," and the pile on the extreme left of the picture the produce from one ton of stable manure treated with acid phosphate.

There are many grades of Tennessee rock, ranging from those containing only eight to ten per cent of phosphoric acid to those containing thirty per cent or more. A buyer should insist on having the per cent of phosphoric acid guaranteed. It has been said that many of the firms offering "floats" for sale refuse to give a guarantee, but there is no just reason why they should not do the same as is done with other fertilizing materials. The above quoted results were obtained with a twenty-eight per cent "floats," which was purchased at eight dollars a ton. A higher price for this material would cut down the net profit. Unless the "floats" can be purchased for about half the cost of a good acid phosphate (say fourteen or sixteen per cent), it is probable that the latter material would give the larger profit. It may be positively stated that it will pay to use one or the other with manure. The best way to use either substance is to scatter it in the stable each day, so it will become thoroughly incorporated with the manure.

ALFRED VIVIAN.

Ohio State University.

Should We Farm More or Less Acres to Increase Our Profits?

THIS very practical question appeared in the question-box at one of the farmers' institutes in New York State not long ago. It is a question which deserves more than a passing answer and consideration. We have heard and read so much about intensive farming that we have almost been led to believe that only the farmer who is practising intensive methods is to be considered as belonging to the ranks of progressive farmers at all. Intensive farming is good. It is to be commended, urged and practised wherever conditions warrant it. It should be remembered however, that thousands of farms, and portions of many thousands more, are wholly unadapted to intensive methods, as we commonly understand that term. Farms which are rough, rocky and steep must be handled in a manner suited to their conditions. This generally means some form of grazing or similar types which yield a comparatively small return an acre. To attempt to introduce the methods of the market-gardener upon lands of this sort would be mere folly. Farms located at long distances from market must be made to produce things which represent considerable value in a given weight and bulk, in order that the cost of transportation shall not reach too high a percentage of the selling price.

Under conditions like these, to attempt farming less acres would be wrong. Viewed from the standpoint of the political economist, who is considering the welfare of the community as a whole, the largest possible product an acre may be the best. Viewed from the standpoint of the individual farmer, who is chiefly concerned with his own profits, this matters little. The point of chief interest to him is the product per man, not the product per acre. Under what plan will his own energies, the capital which he has to invest, and the labor which he wishes to employ, yield the greatest return? The world is not yet approaching starvation; it is not now important that each acre of land should be made to produce its maximum return.

Business Farming Must Conform to Economic Laws

With extensive types of farming it is absolutely necessary to use considerable areas in order to insure reasonable profit. Farming as a business is in no way exempt from the laws of economics. Profit must come in the difference between cost and selling price. This difference, even though the percentage may be large, which too often it is not, cannot be great in a single item. The profit on a single bushel of potatoes or a single pound of butter can amount to but little. A satisfactory return can only be had by producing enough bushels or pounds to make the aggregate large. This may be done either by increasing the number produced from a given acre or by increasing the number of acres employed. Under some conditions one method will yield the most profit, under other conditions the other will be best.

It should be remembered that extensive methods usually demand more fixed capital, while intensive methods demand more working capital and labor. The man with limited capital, therefore, who is seeking chiefly an outlet for his own labor, may well look first to the intensive types. The man with abundant capital, who may find labor hard to obtain, should consider well the extensive types. These points alone will not suffice. Location may settle the question beyond dispute. To attempt an extensive type of farming in the market-garden regions about Boston or any other large city, with the high prices of land prevailing under such conditions, would be suicidal. Sheep husbandry or commercial orcharding may be excellent and profitable types of agriculture, but either would prove disastrous under such conditions.

Methods Must Be Adapted to Conditions

Over against these conditions lies a vast region of land which the economist discusses much, but which the farmer knows better, where the return is so small that it may be little more, or even less, than the cost of production. Such land, if farmed at all, must be by methods which will employ many acres to secure the return which one acre of the market-gardener's land will produce. Land of this sort may yield a good profit in forests, but it will uot be by making the return an acre large.

Many farms have some land approaching this character, while other parts are fertile and productive. The wise farmer learns to adapt his methods to these conditions. He allows the poor land to remain in pasture or handles it in some other way which does not call for any large outlay. This is the method which many of us may well imitate and intensify. When we learn to put the rough, hill lands to the uses for which they are best adapted under our conditions, and then to intensify our methods on the better parts of the farm which will bear such methods, we shall all be likely to find our profits increasing.

The comparative results from extensive and intensive methods with the same crop are worthy of consideration. Under conditions where either is permissible there are certain fixed charges which must be borne and which are practically the same in either case. By increasing the outlay at certain points it is often possible to increase the return more than proportionately. The hay crop may serve as an illustration of this. The rent of land, or interest and taxes, and the cost of mowing and raking will be practically the same, whether the yield be one half ton or three tons an acre. By adding a very little in the cost of seed and something in the cost of preparation, then making an additional investment in fertilizers, it may often be possible to double, triple or even quadruple the yield which would otherwise be obtained. This will increase the cost of hauling, to be sure, an increase which will usually be borne without serious complaint.

Increasing our profits may mean farming fewer acres; it may mean farming some acres less and farming other acres more intensively. FRED W. CARD.

Fertilizer for Thin Corn Land

FARM AND FIRESIDE:—Please tell me in your next issue the cheapest and best fertilizer for corn on thin land; don't say stable manure, for I have very little of that. Also state if it would be better to broadcast the fertilizer or put it in the hill? J. C. T., Lamar, Indiana.

Our correspondent's statement of his conditions is not sufficiently definite to justify one in making any very specific recommendation. As he bars stable manure, it is not very easy to say what would be the cheapest and best fertilizer to use on corn. It is perfectly safe to take it for granted, however, that it will pay to use a phosphate fertilizer, if nothing else. Unless he feels that his soil is in pretty fair condition, it would doubtless be advisable to use a little nitrogen and potash as well. A fertilizer analyzing about four per cent each of nitrogen and potash and ten per cent phosphoric acid would probably be not far from right. If the soil seems to be fairly well supplied with nitrogen, he might use a fertilizer carrying the phosphoric acid and potash only as this would lower the cost considerably. Most people in using commercial fertilizers apply it in quantities too small to produce any effect. Experience has shown that the largest net profit comes from rather liberal use of fertilizers, say three hundred to four hundred pounds to the acre.

The fertilizer should be broadcasted, by all means. It is a very great mistake to apply fertilizer in the hill. When this is done, the tendency is for the roots of the corn-plant to bunch around the fertilizer instead of spreading through the soil, and in case of dry weather the corn suffers more from the drought than it would had the fertilizer not been used. The cereal crops following the corn make a patchy growth due to extra rich spots where the hill of corn formerly stood. This results in uneven ripening of the grain, which is objectionable. All fertilizing material should be distributed evenly over the ground, and the roots encouraged to make an extensive growth.

Thin land usually needs organic matter more than anything else, consequently no fertilizer is equal to stable manure for such ground. The owner should endeavor to produce more manure. If he can apply not more than two tons to the acre, that quantity will help considerably and will enable him to cut down the amount of nitrogen and potash to be purchased. Experience has shown that it pays better to spread what manure one has over a large area instead of concentrating it on a small space, so if he has a "little" manure he should make the best use of that. If manure cannot be produced, it will be absolutely necessary to grow green crops to be [illegible]d under if the fertility of a thin soil is to be maintained. More soils fail throug[illegible] the lack of organic matter than for any other single reason.

ALFRED VIVIAN.

Ohio State University.

Photo by Goodwin.

Phosphate Experiment

Actual yields obtained from one ton of untreated manure and from the same quantity of manure treated with "floats" and acid phosphate. (Reproduced by permission of the Ohio Experiment Station.)

SPRING CLEANING

PAINTED BY MARY SIGSBEE KER

Be Sure to Read Our Offers on the Back of This Picture

Things You Can Get Without Paying a Cent

These articles are all guaranteed by Farm and Fireside as absolutely reliable. You can obtain any of them by just getting a few of your neighbors and friends to each let you send us 35 cents for a full year's subscription to Farm and Fireside. This is very easy to do, as almost every one subscribes as soon as he sees a copy and knows how little it costs. Subscriptions may be either new or renewal and your own subscription counts as one. Send all subscriptions to John L. Thompson, Secretary The Million Club, Farm and Fireside, Springfield, Ohio.

Men's and Boys' Fine Watch

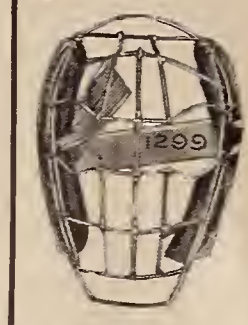
Movement: Regular sixteen size. Heavy bevel crystal.

The Guarantee: In every watch will be found a printed guarantee, by which the manufacturers agree that if without misuse the watch fails to keep good time within one year, they will, upon its return, with five cents postage, repair it free of charge, and return it.

WATCH No. 370

Description: Elegant nickel case, snap back, Roman dial, stem wind, stem set, open face.

This fine watch is sent postpaid for only six yearly subscriptions to Farm and Fireside at 35 cents each.



Men's Catcher's Mask (1299)

Made of strong, heavy wire, padded with heavy leather. Thoroughly up to date, latest design, greatest strength and durability. Full size. Sent postpaid for only seven subscriptions to Farm and Fireside at 35 cents each.

Men's Catcher's Mitt (1305)

Best quality leather, large size, and the new 1909 design. Has deep pocket. Made by the best manufacturers of base-ball goods in this country. Will last for many years. Sent postpaid for only eight subscriptions to Farm and Fireside at 35 cents each.

Men's Infielder's and Fielder's Glove (1308)

Best workmanship and quality, web thumb, deep pocket and thoroughly well padded. Made of good strong leather. A top-notch article in every respect. Sent postpaid for only eight subscriptions to Farm and Fireside at 35 cents each.

Men's Professional Base-Ball (1296)

A durable, well-made base-ball that should stand the hardest kind of usage and outlast a full game. Sent postpaid for only three subscriptions to Farm and Fireside at 35 cents each.

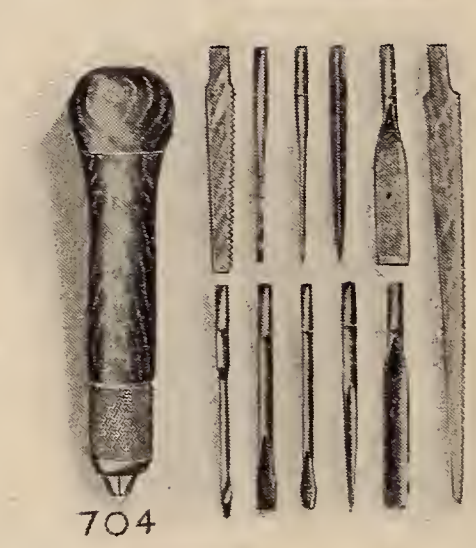
Boys' Base-Ball (1295)

This is an excellent, large, durable ball for boys. Almost men's size. Sent postpaid for only two subscriptions to Farm and Fireside at 35 cents each.

Six Silver Teaspoons (36)

These are the beautiful "Wild Rose" design, extra triple-plate silver teaspoons, made and **guaranteed** for ten years by the famous Oneida Community Ltd. Spoons exactly like them in quality sell for $3.50 for the six in the best stores. An expert can hardly tell them from the best sterling silver spoons.

We will send you **all six** teaspoons postpaid for only five subscriptions to Farm and Fireside at 35 cents each.

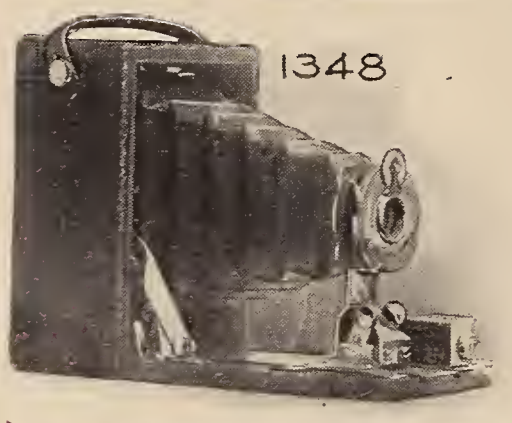


Handy Tool-Holder With Eleven Tools

This is one of the handiest and most useful articles ever invented. The tools are made of the finest steel and all are kept within the handle. Each tool fits into the clasp of the tool holder. The end of the handle screws off and on, so that the tools may be easily put in or taken out. One of these handy tool-holders is a mighty useful article to have around the house.

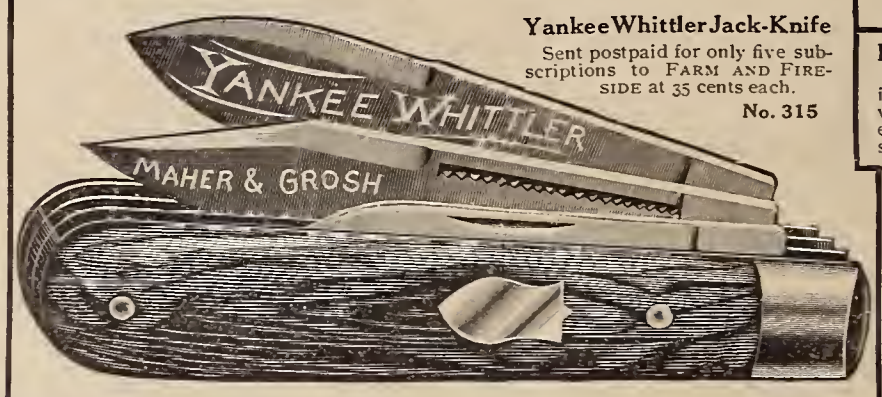
Among the tools are 2 saws, 2 gimlets, 2 awls, 2 chisels, 2 screw-drivers and 1 punch.

This handy tool-holder complete with eleven tools will be sent postpaid for only four subscriptions to Farm and Fireside at 35 cents each.



Premoette Folding Camera (1348)

Here is a really excellent instrument, of the very highest grade. It is a perfect camera in every respect and folds up so that it can be conveniently carried in the pocket. Takes pictures 2¼ by 3¼ inches. Covered with black leather. This camera usually costs from ten to twelve dollars. We will send it by express, the receiver to pay charges, for only thirty-five subscriptions to Farm and Fireside at 35 cents each.



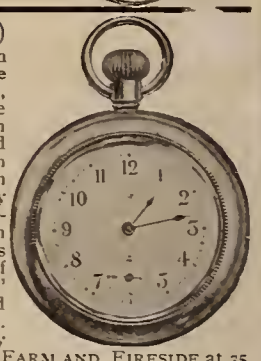
Yankee Whittler Jack-Knife

Sent postpaid for only five subscriptions to Farm and Fireside at 35 cents each.

No. 315

Ladies' Watch (1591)

Description: This watch is made in exactly the same way as the men's watch, except that the parts are smaller. The watch is stem wind and stem set, and can be furnished with either Arabic or Roman dial, as preferred. We buy these at the lowest wholesale rates, so that we can offer them to our readers for the smallest number of subscriptions. This ladies' watch can be furnished only in the nickel finish. It is sent postpaid for only twelve subscriptions to Farm and Fireside at 35 cents each.



A Handsome Hammock (1910)

This hammock we can furnish in assorted colors and is made of the best quality material. It is full size and will give first-rate satisfaction. There is nothing that will give you more pleasure throughout the spring and summer on your porch or in your yard than a pretty, comfortable hammock. This is just the one you want, and it will wear well, too. It will be sent by express, the receiver to pay charges, for only fifteen subscriptions to Farm and Fireside at 35 cents each.

42-PIECE GOLD-MONOGRAM DINNER-SET (414)

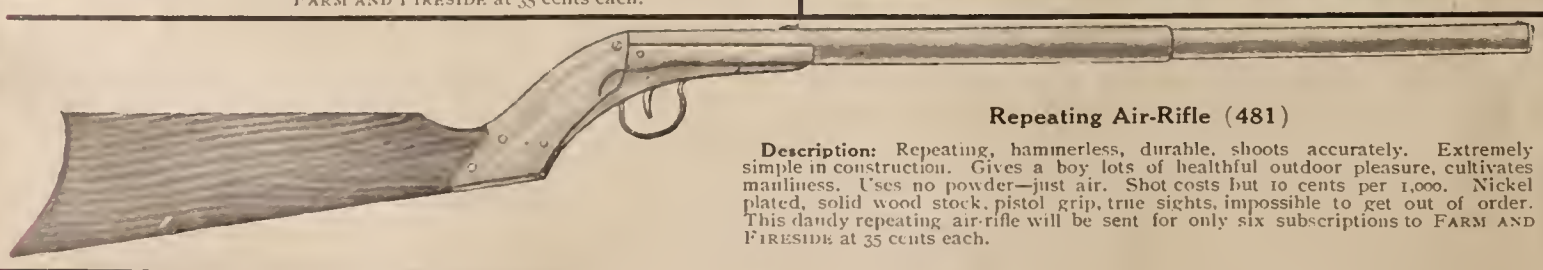
Every piece of this beautiful 42-piece dinner-set is beautifully decorated and will have your monogram in handsome gold letters in the center. It would be hard to find a prettier set than this will make when it is on your dinner-table. The richness of the gold monogram and the beauty of the decorations make it an unusually attractive set. There are six dinner-plates, six supper-plates, one platter, two vegetable-dishes, six cups and saucers, six butter-dishes, six sauce-dishes, extra bowls and butter-plate. The whole set is made of the finest semiporcelain and the decorations are baked in the enamel. The set is sent complete by freight, receiver to pay charges, for only eighteen subscriptions to Farm and Fireside at 35 cents each.

Flobert Rifle (1281)

22 caliber. Shoots both long and short cartridges. A powerful rifle, well made and a strong, accurate shooter. Hand-forged steel barrel, hardwood stock, true sights, long barrel. Sent by express, charges to be paid by receiver, for only eighteen subscriptions to Farm and Fireside at 35 cents each.

Reliable Fountain-Pen (1441)

This fountain-pen is made by the largest manufacturer of fountain-pens in America and is guaranteed thoroughly reliable in every respect. It has a gold pen-point and the barrel is beautifully chased. Sent complete in a case with a filler postpaid for only five subscriptions to Farm and Fireside at 35 cents each.



Repeating Air-Rifle (481)

Description: Repeating, hammerless, durable, shoots accurately. Extremely simple in construction. Gives a boy lots of healthful outdoor pleasure, cultivates manliness. Uses no powder—just air. Shot costs but 10 cents per 1,000. Nickel plated, solid wood stock, pistol grip, true sights, impossible to get out of order. This dandy repeating air-rifle will be sent for only six subscriptions to Farm and Fireside at 35 cents each.

Send All Orders to John L. Thompson, Secretary The Million Club, Farm and Fireside, Springfield, Ohio

WRITE FOR CATALOGUE OF HANDSOME ARTICLES THAT YOU CAN GET WITHOUT COST

Corn and Our National Prosperity

By Professor H. C. Price, Dean of the Ohio College of Agriculture

THE prosperity of our country has always been based upon agriculture, and the prosperity of our agriculture upon the production of our corn. Corn preserved the American colonists from starvation; corn produced the energy to fight the American revolution; corn won the valleys of the Ohio and Mississippi to civilization; corn drew the prairie-schooners to the West to break up the fertile prairies and to plant homes; corn has built our transcontinental railways, and to-day our export of corn and other agricultural products derived directly or indirectly from corn pays our "balance of trade" in our commerce with other nations.

The United States now produces four fifths of the corn crop of the world, and the farm value of the crop is over one fifth of the value of all other agricultural products put together.

It is an interesting fact that maize, or Indian corn, was the only cereal that America gave to the world. The other grains—wheat, rye, barley and oats—had been cultivated in Europe and Asia thousands of years before America was discovered, and to-day the term "corn" as used in the European countries means any or all of the cereals, and American corn is known as maize, or Indian corn.

To American agriculture corn has always been the most important stock feed produced in the country. It has produced our fat cattle and hogs, with which we have not only supplied our own markets, but the markets of Europe. Last year our export of packing-house products, which was derived primarily from corn, amounted to over two hundred million dollars.

The relative importance of the corn crop, as compared with the other principal crops produced in our agriculture, is best shown by a comparison of the average number of acres grown, quantity produced and value for the last five years, as shown by the following table:

1904-1908

Crop	Acres	Yield	Value
Corn	96,939,906	2,672,772,312 bus.	$1,264,766,131
Hay	42,470,156	60,569,719 tons	603,307,434
Wheat	46,400,556	653,865,759 bus.	538,091,672
Oats	30,205,836	874,863,054 bus.	315,795,905
Potatoes	3,081,316	295,707,395 bus.	169,992,072
Barley	5,931,832	155,133,892 bus.	76,533,393
	225,029,602		$2,968,486,607

As shown by this table, the number of acres of corn grown is twice that of any other crop produced. The yield in bushels is three times the yield of the oats crop and four times the yield of the wheat crop, while the value of the crop is twice the value of any other crop produced. To such an extent is American agriculture dependent upon the corn crop, that in years of partial failure, not only does agriculture suffer, but all of the industries closely related to agriculture — manufacturing, merchandising and transportation. So well is this understood by the business man in the corn belt that during the growing season no item of news is scanned more closely than the condition of the growing corn crop. If there is not a normal crop, the grain-dealer will not have a surplus to handle, the railroad will not have the usual amount to haul, the banker will not have the money to handle that the surplus would bring. While the farmer may have enough corn for his own use, he does not have the receipts from the sale of his surplus corn or live stock fed upon it to buy from the merchant or manufacturer his articles of trade.

The importance of the corn crop to our national prosperity can best be realized when we consider the corn crops for the past ten years, as shown by the following table, which shows the number of acres grown, the average yield an acre, the total yield, the average farm price per bushel on December 1st:

Year	Acres	Average Yield per Acre	Total Yield	Price per Bu.	Total Value
1899	82,108,587	25.3	2,078,143,933	30.3	$ 629,210,110
1900	83,320,872	25.3	2,105,102,516	35.7	751,220,034
1901	91,349,928	16.7	1,522,519,891	60.5	921,555,768
1902	94,043,613	26.8	2,523,648,312	40.3	1,017,017,349
1903	88,091,993	25.5	2,244,176,925	42.5	952,868,801
1904	92,231,581	26.8	2,367,480,934	44.1	1,087,461,440
1905	94,011,369	28.8	2,707,993,540	41.2	1,116,696,738
1906	99,737,581	30.3	2,927,416,091	39.9	1,166,626,479
1907	99,931,000	25.9	2,592,320,000	51.6	1,336,901,000
1908	101,788,000	26.2	2,668,651,000	60.6	1,616,145,000

By this table it will be seen that the acreage planted in corn at the present time is approximately one hundred million acres. The total yield in normal years varies from two and one half to two and three fourths billions of bushels. The total value of this crop is over one billion dollars a year, and this last year was worth sixteen hundred million dollars, or more than one fifth of the total value of all our agricultural productions.

One fact in connection with this table should not be passed without mentioning, and that is the average yield. In the past ten years only once has the average yield of the entire crop of the United States reached thirty bushels an acre, and one half of the time it has been less than twenty-six an acre. For every man who produced more than the average yield an acre, some other farmer produced just as much less an acre, or, in other words, if the average yield is twenty-five bushels an acre, for every farmer who produces thirty bushels an acre, some farmer produces twenty bushels an acre.

This average yield is only one half the yield that should and can be produced on the area that is now cultivated. In this connection a quotation is of interest, from the address of James J. Hill before the conference of governors held in Washington last year to consider the conservation of our national resources.

In speaking of the possibilities of agriculture, Mr. Hill said: "Nearly thirty-six per cent of our people are engaged directly in agriculture, but all the rest depend upon it. In the last analysis, commerce, manufactures, our home markets, every form of activity runs back to the bounty of the earth by which every worker, skilled and unskilled, must be fed, and by which his wages are ultimately paid.

"Of our farm areas, only one half is improved. It does not produce one half of what it could be made to yield; not by some complex system of intensive culture, but merely by ordinary care intelligently applied.

"It is the capital upon which alone we can draw through all the future, but the amount of the draft that will be honored depends upon the care and intelligence given to its cultivation. Were any statesman to show us how to add seven million dollars annually to our foreign trade, it would be the sensation of the hour. The way to do this in agriculture is open. Our share in the increase would not be the percentage of profit allowed by successful trading, but the entire capital sum. On the other side stands the fact that the unappropriated area suited to farm purposes is almost gone, and that we have for the last century been reducing the producing power of the country. Nowhere in the range of national purposes is the reward for the conservation of a national resource so ample; nowhere is the penalty of neglect so threatening."

The problem of the future in corn-growing is not to cultivate more acres, but to produce more corn from acres that are now cultivated.

While corn is one of the most widely grown of our farm crops, there are only a few states that produce more than is consumed within their borders, and these states form what are known as the corn-surplus states.

These states form a solid block of territory in the upper Mississippi Valley, and if one foot of a compass is placed on Springfield, Illinois, and a circle is described with a radius of three hundred miles in length, it will inscribe the bulk of the surplus-corn territory. This includes the richest, most productive and most valuable agricultural lands, and land that is destined to continue to increase in value. The states that make up this corn belt are not only the leading states in corn production, but also in the total production of agricultural products. Iowa and Illinois, the two leading corn states, are also the two leading states in the total production of agricultural products.

The following table shows the average acreage, yield and value of the eight leading states in the production of corn for the last five years:

State	Acres	Average Yield	Total Yield	Price per Bu.	Total Value
Ohio	3,262,804	37.2	121,597,590	48	$ 58,336,085
Indiana	4,606,573	35.6	164,219,248	44	70,956,620
Illinois	9,526,618	36.0	343,086,265	42	145,072,995
Iowa	9,148,256	33.6	307,820,528	38	117,772,233
Missouri	6,837,989	30.0	205,599,788	44	91,616,117
Nebraska	7,681,734	30.1	231,874,321	37	84,269,892
Kansas	6,857,624	24.3	166,860,501	41	67,113,398
Oklahoma	3,041,999	27.1	79,599,577	39	33,253,004
	50,963,597	31.7	1,620,657,758	41.6	$669,390,334

There is a reason why corn is such an important factor in agriculture and our national prosperity. Corn is the one cereal that is adapted to intensive methods of farming, and as our farms grow smaller and our land more valuable, intensive methods must be used. The money value of a crop is not the only consideration in growing a crop if it is being grown to consume on the farm, but we are concerned just as much in knowing how much feeding value it will produce an acre. It is in this respect that corn excels our other farm crops; in fact, there is only one crop that will produce as much, and that is alfalfa where it does well. In the table on page 6 is found the yield an acre of digestible carbohydrates and fats, the total amount of digestible nutrients, and the nutritive ratio of the leading farm crops, when the yields are as follows: Corn, fifty bushels an acre, stover estimated at one and one third pounds for one pound of grain; wheat, twenty bushels, oats, forty bushels, straw, estimated at two pounds to one pound of grain; timothy, two tons an acre; clover, two tons an acre; alfalfa, four tons an acre; soy-beans, fifteen bushels an acre, and one and one third pounds of straw to one pound of grain.

This table tells the whole story of the value of farm crops for feeding purposes. It is not a question of bushels or pounds or tons to an acre, but the amount of total digestible nutrients produced, and the proportion in which they are produced as expressed in the nutritive ratio. The data in the table are figured on the basis of fifty bushels of corn an acre, and when it comes to increasing the yield, the corn crop is more readily increased than any other crop, so that the corn crop offers the greatest possibilities.

In speaking of the fabulous value of the corn crop of the United States, Secretary of Agriculture James Wilson said: "The farm value of the corn crop, eight such years as 1907, would pay for duplicating every mile of steam railroads in the United

[CONCLUDED ON PAGE 6]

"Aye, the corn, the royal corn, within whose yellow hearts there is of health and strength for all the nations"

Make Big Money Training Horses!

Prof. Beery, King of Horse Tamers and Trainers, has retired from the Arena and will teach his wonderful system to a limited number, by mail.

$1200 to $3000 a Year
At Home or Traveling

Prof. Jesse Beery is acknowledged to be the world's master horseman. His exhibitions of taming man-killing horses, and conquering horses of all dispositions have thrilled vast audiences everywhere.

He is now teaching his marvelously successful methods to others. His system of Horse Training and Colt Breaking opens up a most attractive money-making field to the man who masters its simple principles.

Competent Horse Trainers are in demand everywhere. People gladly pay $15 to $25 a head to have horses tamed, trained, cured of habits—to have colts broken to harness. A good trainer can always keep his stable full of horses.

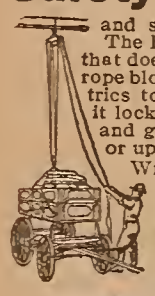
If you love travel, here is a chance to see the world, giving exhibitions and making large profits. You will be surprised to learn how little it costs to get into the Horse-Training profession.

Write and Prof. Beery will send you full particulars and handsome book about horses—FREE. Address **Prof. Jesse Beery, Box 22, Pleasant Hill, Ohio**

SAVES FOUR MEN'S WORK AND THEIR PAY

If you change wagon boxes, move great stones, load crops, raise sick or injured animals, stretch wire fence, move logs, etc., or do any heavy lifting and moving, you can do it alone with the

Burr Automatic Safety Tackle Block



and save four men's time and pay. The Burr is the only rope tackle block that does a chain block's work—the one rope block without teeth wedges or eccentrics to bite, tear and wear rope. Yet it locks unfailingly and rigidly on wet and greasy rope. Locks at any angle or upside down.

Write postal today for full information, sizes, capacities, etc. Prices 70c to $4.25. Think how little for such help. Write us now.

Burr Manufacturing Co.
146 Viaduct Cleveland, O.

Harness leather becomes hard, brittle, unsafe, when the pores in the leather are open to wind and moisture. An application of

EUREKA Harness Oil

fills the pores, seals them against these hardening, rotting agencies and keeps the harness a beautiful black, soft, elastic, and tough. Eureka Harness Oil does wonders for a harness. Ask your dealer.

STANDARD OIL COMPANY (Incorporated)

FIX YOUR ROOF

5c Per Square.—We will guarantee to put any old leaky, worn-out, rusty, tin, iron, steel, paper, felt, gravel or shingle roof in perfect condition, and keep it in perfect condition for 5c per square per year.

Roof-Fix The Perfect Roof Preserver, makes old, worn-out roofs new. Satisfaction guaranteed or money refunded. Our free roofing book tells all about it. Write for it today.

The Anderson Manufacturing Co., Dept. 19 Elyria, Ohio

HARVEY BOLSTER SPRINGS

Soon save their cost. Make every wagon a spring wagon, therefore fruit, vegetables, eggs, etc., bring more money. Ask for special proposition. Harvey Spring Co., 729 17th St., Racine, Wis.

SAVE YOUR BACK

Save time, horses, work and money by using an

Electric Handy Wagon

Low wheels, broad tires. No living man can build a better. Book on "Wheel Sense" free. Electric Wheel Co. Box 96, Quincy, Ill.

3-STROKE SELF-FEED HAY PRESS.

All Steel and Iron. Two Men can run it. The Auto-Feeder Hay Press Co. 1521 W. 12th St. K. C. Mo. Ask for Catalogue No. 7

FISH BITE EAGERLY no matter what the weather when you use Magnetic Fish Bait. Best thing out. It insures a royal time and a big string. Write for free box. Agents wanted. MAGNETIC FISH BAIT CO., Main 319, Republic, Missouri.

WHEELS, FREIGHT PAID $8.75

for 4 Buggy Wheels, Steel Tires. With Rubber Tires, $15.75. 1 mfg. wheels ¾ to 4 in. tread. Buggy Tops $5.50, Shafts $2.00. Top Buggies $23; Harness $8. Learn how to buy direct. Catalogue Free. Repair Wheels, $5.50. Wagon Umbrella FREE. F. F. BOOB, Cincinnati, O.

Around the Farm

Items of Interest and Value to the Progressive Farmer

Keep the Boys on the Farm

KEEPING the boys on the farm does not mean making slaves of them, but giving them a good time and letting them enjoy themselves along with the work.

Boys should have a good education. How many go through life and prosper as they go without an education? Stop and think before you answer. There are not many, it is true, so to become efficient farmers—those who know and tend to their own business—the boys must have an education.

Above all, they should be kept from the bar-room and gaming-table. How many farmers give their boys a good time on the farm? Very few; but think, you farmers, how pleasant it is for the boys, after the work is done, to have a chat with father or to read the latest magazines. And think, also, how pleasant it will be when you are old and feeble, say eighty or eighty-five years of age, to see your stout, manly son out tilling the soil where you and he have enjoyed yourselves so long. How much better is this than to see him a clerk in a dry-goods or candy store living on paltry wages. Give the boys a chance to get an education and encourage them to love the old farm. Many boys who leave the farms and go to the city, return penniless—what a failure!—to the farm where his brothers stayed and farmed in content.

E. J. WEHRLIN.

Fertilizer for Potatoes

SOME farmers think as they do things, others do not. Some men who have planted potatoes each year for years do not know any more about raising them than years ago. When we see a potato-grower of this caliber we know he has not profited by his experience.

Potatoes require a lot of fertilizer to grow them to their best; potash and phosphoric acid are two of the main elements that they require. Nitrogen of course is needed in limited quantities, but most of this goes to make tops. We find in ordinary manure a fairly complete fertilizer; analysis may prove this wrong, but in our experience covering six or eight years, with close attention paid to that which makes "big potatoes and lots of them," we are of the opinion that nothing will take the place of manure as a fertilizer.

We have tried commercial fertilizers with varying results, but we are of the opinion that most of the prepared fertilizers are too low in potash; that being a costly ingredient, it is often deficient.

We never saw better potato ground than that furnished in old feed lots. These nearly always have what would be considered excessive amounts of manure on them, therefore excessively fertilized for ordinary crops.

An old idea was to the effect that if the potatoes had heavy tops, there would be no potatoes; but this is a very erroneous idea, in fact the opposite, for to have a good crop of tubers means one must have a luxuriant top growth, for the tops are the lungs of the whole plant.

With our experience, we could not recommend commercial fertilizers on ground well supplied with manure, or, in other words, on old feed lots; however, we got good results by using potash and phosphoric acid on a plot planted on ordinary corn ground.

OMER R. ABRAHAM.

Plant Trees by the Millions

THE many letters I am receiving this spring inquiring about trees and methods of planting plainly indicate that thousands upon thousands of forest-trees will be planted this season. Millions should be planted. They will be needed long before they can be grown to useful size.

One farmer writes me that he has twenty acres of rough, cut-over land which he will reforest this year. He said the former owner cut all the good timber off it and destroyed most of the young growth. He says there are patches of oak and other native trees coming up here and there, and he asks if I think it will pay to leave them; if they will grow well enough to make satisfactory timber.

I certainly would leave them, and take all possible means to protect them and encourage growth. They are established and will make several feet of growth before other trees could be started.

A short time ago I saw a tract of thrifty native growth, and stopped at the owner's home to make some inquiries about it. He stated that the tract was little more than a patch of brush when he bought the farm, ten years previous. He made an examination, and discovered that there was enough young native growth coming up to make a good stand of timber if it was given a fair chance. He set to work and cut out a good deal of the brush, and planted the bare places with ash, walnut and locust and some of the small oaks, and had done nothing more to it since. It is now as promising a bit of native forest as one could wish to see. The oaks are making a very rapid, straight growth, and soon this farmer will have all the posts and pole timber he wants, and lots to sell to his neighbors. This little tract stands in what was once a heavily-timbered section, but which is now farmed, yielding a scant growth of grass and small crops of grain.

How Poor Land May Be Made Valuable

About fifteen years ago another farmer I know was attending a public sale of some cut-over, hilly land belonging to an estate which was being sold to satisfy debts. He ventured a bid on forty acres, and it was promptly accepted. His neighbors laughed at him and asked him how soon the tract would again be in the hands of the sheriff. He posted notices around it that no stock of any kind would be allowed to trespass on it, sowed it to a mixture of grasses, chiefly redtop, planted twelve thousand locust and other seedlings on the hillsides, planted ash, maple and other tree seeds and nuts in large groups wherever he thought they would grow, and has done very little to it since. The seedlings and transplanted trees have made a remarkable growth. He cut enough posts to fence the tract, and he is now pasturing fifteen young calves in it, and they are doing nicely. He could readily sell the tract for twenty times what he gave for it. If all hilly, rough land were treated like this its value would be enhanced immensely in a few years, and our supplies of hard woods would be restored.

Farmers who have good wood-lots on their farms hardly realize their great value. It is those who have to buy every stick and post they use who fully understand the convenience of having a grove to go to when in need. As a farmer friend who has a single acre of locust and catalpa said not long ago, "Whenever I need a post to repair a fence I just go to the grove and cut it. My neighbor has to go to the lumber-yard in town and pay twenty to twenty-five cents for a good post. Last fall I cut and piled up two hundred posts, all good ones, and it seemed to make scarcely an impression on that little bunch of trees. The farmer who fails to plant a small grove surely makes a great mistake."

The trees planted by most farmers twelve to fifteen years ago were planted chiefly for shade or for wind-breaks, and were largely the fast-growing, soft woods, such as soft maple, willow and cottonwood, and these are nearly useless for posts or building-stuff. Those who are planting now are selecting the more valuable, but slower-growing trees. Those who neglected to plant post timber years ago find posts selling at almost prohibitive prices, and many of them are asking for trees that will grow rapidly and still make good posts. It is fortunate for these parties that we have such trees. Locust and catalpa grow quite rapidly, and make good posts as soon as large enough. I look for a great increase in the plantings of these varieties, and I am satisfied the planters will not regret planting lots of them.

Planting the Wood-Lot

As to the matter of purchasing the trees or seedlings, almost any large nursery has them in any quantity, and at very reasonable prices. Of course every planter is in a hurry to get his trees started. It will pay better to buy the seedlings than seeds. Usually one can grow larger and finer seedlings than he can buy. I have grown catalpa five feet high in one year from seed planted in rich soil early in spring, but I found they had a long, strong tap-root and were hard to dig up, and that medium-sized seedlings were more easily handled and set out. One should trim the roots up a little short, and then not much of a hole is required to set them in.

In planting quite a number on land that can be plowed I would make a good furrow by running a plow about three inches deep, then returning in the same furrow about three inches deeper. This makes a good furrow to plant in, with the soil thrown out on each side and easily gotten in on the roots. Two men can set trees very rapidly, one holding and the other shoveling. When a row is set, turn a light furrow against them from each side. Nurserymen usually sell these seedlings in assorted sizes. In buying, I

Corn and Its Relation to Our Agriculture

[CONTINUED FROM PAGE 5]

States, and pay for their costly terminals, rolling-stocks and all property. In thirteen years it would replace the present banking power of this country in banking capital, surplus, deposits and circulation, and in seventeen years it would replace the banking power of the world."

The following tribute to corn was written by ex-Governor Richard J. Oglesby of Illinois:

"Aye, the corn, the royal corn, within whose yellow hearts there is of health and strength for all nations. The corn triumphant! That with the aid of man has made victorious procession across the tufted plain, and laid foundation for the social excellence that is, and is to be. This glorious plant, transmitted by the alchemy of God, sustains the warrior in battle, the poet in song, and strengthens everywhere the thousand arms that work the purposes of life. Oh that I had the voice of song, or skill to translate into tones, the harmonies and symphonies and oratories that roll across my soul, when standing, sometimes by day and sometimes by night, upon the borders of the verdant sea. I note a world of promise; and then, before one half the year is gone, I view its full fruition, and see its heaped gold await the need of man.

"Majestic, fruitful, wondrous plant! Thou greatest among the manifestations of the wisdom and the love of God, that may be seen in all the fields, or upon the hillsides, or in the valleys. Glorious corn, that more than all the sisters of the field, wear tropic garments!"

The Comparative Food Value of Farm Crops

Crop	Total D. Matter	Digestible Protein	Digestible Carbo-hydrates Fats x 2.25	Total Digestible Nutrients	Nutritive Ratio
Corn	2492.8	221.2	2139.2	2360.4	1:9
Stover	2240.0	63.5	1269.0	1332.8	1:19.9
Total	4732.8	284.7	3408.2	3693.2	1:12
Wheat	1080	122.4	876.0	998.4	1:7.2
Straw	2160	9.6	892.8	902.4	1:93
Total	3240	132.0	1768.8	1900.8	1:13.4
Oats	1139.2	117.76	727.04	844.8	1:6.2
Straw	2329.6	30.72	1034.24	1064.96	1:33
Total	3468.8	148.48	1761.28	1909.76	1:12
Timothy	3480	112	1860	1972	1:16.6
Red Clover	3400	272	1584	1856	1:5.8
Alfalfa	7360	880	3384	4264	1:3.8
Soy-Beans	802.8	266.4	492.3	758.7	1:1.9
Soy-Bean Straw	1078.8	27.6	507.0	534.6	1:19
Total	1881.6	294.0	999.3	1293.3	1:3.4

would order those two to three feet in height, because they are much easier handled than the smaller sizes.

Planting for Post Timber

In planting for post timber, I would set them four feet apart in rows six feet apart. Some good planters say they should be six feet apart each way, but I have seen splendid locust posts grown only three feet apart in rows five feet apart. Four by six feet will usually give a more rapid and satisfactory growth than closer planting, and the trees will grow much straighter than if planted farther apart. The richer the land, the more rapid the growth. Locust usually go straight up and require very little pruning. Only an occasional one gets a wrong start, and if it is very crooked it should be cut off just above the ground, and a new sprout will start and make a straight and rapid growth. The same is true with catalpa. One will find scraggy trees here and there, and he should not waste time pruning and straightening them, but should hack them off at the ground and let them try it again. Usually the sprout will make a better tree than the original seedling.

These seedlings should be given the best of cultivation the first year or two. Keep out all weeds and keep the soil mellow two years, and after that they will take care of themselves, and one will have posts in a very few years. One man asks me if it will pay to use manure or commercial fertilizer to hurry these trees along. I would use any means to hustle them the first two years, or until they got under good headway. After that I would let them go it. One farmer asks if it will pay to plant black walnut for timber. It will pay him all right if he is planting for his grandchildren, but if he wants to use the timber himself, it won't. Red cedar is a good tree to plant in most sections, and it makes a rapid and satisfactory growth.

FRED GRUNDY.

Caring for Stable Manure

IT USED to be the general practice to draw the stable manure to the field and dump it in piles over the field. It would lie there until plowing-time, and then it was scattered with either a shovel or a fork. I have noticed that after all of the manure that could be gathered up was scattered, the ground on which the piles were laid brought much better grain than that on which the manure was scattered. This was because the liquid manure sank down into the soil and was held for the use of the crop. Even when the piles were put on steep hillsides, the best showing was directly under the manure-pile rather than below it, showing that the soil directly under the manure received the benefit rather than the soil below it. This is a pretty strong point against the argument that there is danger of waste from washing when stable manure is applied to a hillside broadcast.

If the stable manure is drawn directly to the field from the stalls, and applied broadcast, there is a more equal distribution of both the solid and the liquid parts of the manure. The soil will hold the manure from being lost from leaching, and as nitrification is not going on to any considerable extent during the winter season, there is very little loss from this source.

I have made it a rule to apply the stable manure to a sod intended for corn. I draw it direct from the stable to the field, and distribute it. This saves work and also is a most economical way of saving the value of the manure. The manure is especially well adapted to the use of the corn crop, as it furnishes a regular supply of plant-food throughout the growing season.

A moderate application of stable manure and two hundred pounds of a good grade of superphosphate to the acre applied broadcast makes a well-balanced fertilizer for corn, or in fact almost any crop. The first crop will not get the full value of the manure and fertilizer, so the corn stubble is in shape if well harrowed for a wheat crop, and this followed by grass and clover for two years, prepares the soil for another coat of manure and a corn crop. A. J. LEGG.

Farmer Boy, Plant Corn

A FARMER boy twelve years of age writes me that his father has given him the use of one acre of good land, and he wants to make all he can off it. He says he has no market to speak of for truck, and he would like to have me tell him what to grow on it.

As he is in the "corn belt," and corn is going to be corn from this time on, I would suggest that he plant corn. Get the very best pure-bred seed-corn to be had from some reliable seedsman who advertises in FARM AND FIRESIDE, and strive for the biggest yield possible. Get the land in good shape and plant by hand. Have the hills three and one half feet apart each way, and put in enough seed to be sure of three good plants to a hill if the soil is rich, and two plants if it is only fair.

Be sure to thin out to just this number of strong stalks to the hill, or you will have more than the soil can support. Cultivate thoroughly, keeping all grass and weeds out, and a mulch of loose soil on the surface all the season, and you will get a full yield.

I would suggest that you plant a pumpkin-seed in every seventh hill if the ground is rich, and grow a few dollars' worth of pumpkins in addition to the corn. They make splendid pig and cow feed, and can readily be sold to feeders.

FRED GRUNDY.

Cutworm Remedies

TO PREVENT cutworms from destroying cabbage and tomato plants, roll a cylinder of stiff paper twice as large as the stem and an inch long. Place it around the stem, and tie, letting the "collar" rest on the ground.

When danger of worms is past, cut the paper off with a pair of scissors.

To make a cutworm-trap, lay a shingle alongside the plants, and many worms will hide under it, when they can be caught and killed. C. E. DAVIS.

"I save you $40 on this Carriage."
Split Hickory Light Carriage — Popular for Family Use.
See Page 111 in My Free Catalog.

"I save you $25 on this Auto-Seat Runabout."
Split Hickory Special Auto-Seat Runabout
See Page 34 in My Free Catalog.

"I save you $30 on this Auto-Seat Buggy."
Split Hickory Square Deal Auto-Seat Buggy.
See Page 58 in My Free Catalog.

"I save you $20 to $30 on this Open Wagon."
Split Hickory Half-Platform Open Wagon.
See Page 115 in My Free Catalog.

Don't Miss It

Don't wait another day, or week to write me for this book. You know about our plan, direct to you at lowest prices, and about Split Hickory quality. But you haven't seen our Big, New Style Book for 1909 yet and I want every possible buggy buyer to be sure to see it before buying any kind of a vehicle or high grade harness. Just write a line to me today.

Get My Prices and Big Book of 1909 On

Split Hickory Vehicles

Save $26.50 and Up and Take 30 Days' Free Road Test

We make to order 125 styles of Split Hickory Vehicles, including all styles of Top Buggies, Automobile Seat, Two-In-One Buggies, Handsome Runabouts with Fancy Seats, Regular Seats and Automobile Seats, Phaetons, Carriages, Surreys, Spring Wagons, Harness. The Split Hickory Buggy shown at the right here made to your order for $26.50 less than your home dealer's price for anything like the value.

2 Years' Guarantee

NOTE—Celebrated, Sheldon, Genuine, French Point Automobile Springs used on all Split Hickory Vehicles, making them positively the easiest riding buggies on the market.

You'll see all these styles illustrated and described in the best, biggest and most beautiful buggy book ever published. It is our this year's style book. Describes our complete line—the greatest buggy values ever offered. Send for it today. We pay the postage.

"I save you $40 on this Auto Surrey."
Split Hickory Cut-Under Delivery Wagon.
See Page 119 in My Free Catalog.

"I save you $30 to $35 on this Auto-Seat Buggy."
Split Hickory Special Auto-Seat Buggy.
See Page 79 in My Free Catalog.

"I save you $26.50 and up on this Top Buggy."
Split Hickory Special Top Buggy—Over 47,000 in Use.
See Page 77 in My Free Catalog.

Send for Big Free Book Today.

H. C. PHELPS, PRES., OHIO CARRIAGE MFG. CO., Station 23, COLUMBUS, OHIO

A HOE THAT SHARPENS ITSELF

THE "*True Temper Special*" is a new and important tool that never grows dull. It is made on a new principle. The blade is the same shape as other hoes, but instead of being made entirely of soft steel, it is made this way:

A piece of high grade tool steel is welded firmly to the bottom half of the soft steel body. It is welded to the front of the blade. It forms a sharp, razor edge and as the soft steel wears down with use, the thin tool steel always presents a sharp cutting edge. You never need to use a file with the

TRUE TEMPER SPECIAL

Ask your dealer about this hoe. If he cannot supply you, write us direct, giving his name.

American Fork & Hoe Co.
Dept. D. Cleveland, O.

POTASH

does more than merely increase the yield and size of

Strawberries

Potash fertilizers produce fine and solid berries that ship well and reach the market in condition to command the top prices.

Make generous applications of commercial fertilizers and buy a brand containing from 9 to 12 per cent. of pure **Potash.**

POTASH IS PROFIT

"*Strawberry Culture*," "*Truck Farming*," "*Farmers' Guide*" and other literature on *Fertilization and Cultivation*, **sent free.**

GERMAN KALI WORKS
93 Nassau Street, New York
Chicago—Monadnock Block,
Atlanta—1224 Candler Building.

Gardening

By T. Greiner

Cold-Frame Management

A novice in gardening, in Windsor, Connecticut, asks about the management of hotbeds and cold-frames for starting plants. Every garden book and almost every large seed catalogue tell how to construct such beds. The home gardener who has or can get one or more common hotbed-sashes may easily raise the most of the plants he wants. Just sow the seed, and keep the bed covered with the sash in bad weather, or more or less open in good weather.

Cabbage and tomato plants, etc., should be given plenty of room and soil that is not too rich. Set early cabbage and cauliflower plants not less than two by three inches, and tomatoes in the later stages of growth not less than four inches or more apart each way. Grow them slowly. Don't try to force them. Thus you get A No. 1 plants for setting in your garden.

Most Profitable Crops

Mrs. W. E. H., a Missouri reader, tells me of a triangular piece of ground sloping to the northeast, and protected on the west side by a five-foot hedge, which piece of ground she desires to use for growing "bulbs and roots that promise some profit." What kind of bulbs and roots would I advise her to grow? That is like asking me what line of merchandise a person in some other part of the country might engage in to make the most profit—groceries, hardware, dry-goods or what not. That all depends on local conditions and on the aptitude of the person.

Our Missouri friend might grow potatoes, or horse-radish, or parsnips, or salsify, or onions, or possibly other vegetables; or she might grow bulbs of flowering plants like gladiolus, tuberoses, dahlias, etc. It all depends on the demand and the chances of sale. Grow what you can sell to the best advantage. There is a wide range of crops to select from.

Green Peas for an Acre

I have been repeatedly asked about the best quantity of peas to sow for green peas, and what are the best kinds. As to the latter question, I always plant Alaska, or the newer Improved Alaska, which is a little larger and more productive, although perhaps a few days later than the older variety, for a first early, and prefer Early Champion and Thomas Laxton for the general crop. But under other local conditions and for general market, Telephone, Stratagem, Abundance and Everbearing or other sorts may do just as well or be more suitable.

Some sorts seem to be more adapted to certain soils than others. Try to see for yourself what is best for your soil. But whatever sorts you plant, you can raise paying crops of green peas only by using a sufficiency of seed. Half seeding will mean half a crop. Maule's seed book gives the quantity of peas required as one pint to seventy-five feet of drill. Dreer's catalogue says plant one quart to one hundred feet of drill. The truth may lay in the middle, yet I feel safer with one quart than much less to one hundred feet of row. As we usually have our rows three feet apart (two and one half feet might do), an acre therefore would have about fourteen thousand five hundred feet of row, and would require one hundred and forty-five quarts of seed, or about four and one half bushels. When seed costs five dollars or more a bushel, the expense for seed-peas, therefore, is not inconsiderable.

Manuring the Home Garden

People who keep a cow or a horse, or perhaps a goat or a hog or two, and some hens besides, may have all the stable manure wanted or needed. This alone is sufficient for all purposes of the home garden, although it may often be made more effective by adding to it, in the stables or compost heaps, a small quantity of superphosphate (acid phosphate). If the home gardener under such circumstances can secure a bag or so from a farmer in the vicinity, it will pay him to do so, and scatter occasionally a few handfuls over the manure, on the bedding in the stables or on the droppings under the perches in the hen-house.

The best way to treat stable manure is to pile it up in a large square heap and fork it over occasionally, adding a little water or liquid manure, or slops from the house, if too dry. If handled over in this manner for a few months it will become fine and in the best possible shape for application to the garden and for giving best and quickest results.

Cover the entire garden spot thickly and plow or spade it under, mixing it as thoroughly as possible with the soil. Save every bit of poultry-manure, including that from pigeons or other pet stock. This may be composted or applied fresh, preferably on top after plowing or spading, and be worked well into the soil with the harrow, cultivator or rake.

Wood ashes may be applied in the same manner.

Treatment for Potato-Scab

A Michigan reader asks about the corrosive-sublimate treatment for potato-scab—whether the potatoes should be cut before or after, and how long to leave them in the liquid.

Some sort of treatment of seed-potatoes for scab is always advisable. The least we can do is to expose our seed-potatoes for a while to the direct rays of the sun, turning them a few times, so as to expose all parts of each tuber, and have them thoroughly "greened" before we plant them.

Treatment with corrosive sublimate or with formalin is perhaps still more effective. Dissolve two ounces of pulverized corrosive sublimate in two gallons of water, then add more water to make fifteen gallons, and immerse the seed-potatoes in this liquid for ninety minutes. Remove from the soak, cut, and plant, always remembering that corrosive sublimate is a virulent poison, although perfectly safe as a wash.

Leaf-Curl in Peaches

Leaf-curl can be controlled, no doubt about it. The applications, however, must be made before the leaves come out. Lime-and-sulphur solution as now being used for the San Jose scale will do it. So will Bordeaux mixture of standard strength. So, probably, will a simple solution of copper sulphate or iron sulphate. The important point is to spray with any of these solutions in proper time. If you wait until the leaves are out, you have missed your chance.

500,000 FLORAL HOMES are made BRIGHTER and HAPPIER the year 'round by the monthly visits of *Park's Floral Magazine*, the oldest, most practical and most popular journal of its class in the world. 38th year. Original, finely illustrated, and literally packed with just the information that delights the flower lover and flower grower. Only 10c. a y'r.

20 Fine Gladiolus 5 cts.

When subscribing add 5 cts. (total 15 cts) and I'll mail you, prepaid, **20 Gladiolus**, splendid blooming-sized bulbs, finest Dutch strain imported. I secured these at a marvelous bargain from the specialist who needed the cash, so may never be able to make such an offer again. They'll yield flowers unequaled in richness, variety and beauty—something different! Club of two 30 cts, with extra bulb of the new, charming spotted Gladiolus trimaculatus. Club of five 75 cts, including the Spotted Gladiolus and a fine bulb of the grand, rare, hardy, and fragrant white Lilium Takessimum, just imported from Holland. Club with friends. Order now. This ad. will not appear again. Adr's *Geo. W. Park*, B67, *LaPark, Pa.*

STILL MORE. Park's Floral Guide, a richly illustrated annual, all about flowers, also free with the above.

Burpee's The Leading American Seed Catalog for 1909!

THE "SILENT SALESMAN" of the World's Largest Mail-order Seed Trade is a **New Book of 174 pages.** It describes Rare Novelties which cannot be had elsewhere and tells the *plain truth* about the Best Seeds that can be grown—as proved at our famous FORDHOOK FARMS—the largest and most complete Trial Grounds in America. Handsomely bound in covers lithographed in nine colors, it shows, with the beautiful colored plates (also in nine colors), Seven Choice Novelties in Vegetables, Three Superb "Spencer" Sweet Peas and the most beautiful New Giant-flowered Pansies—all accurately painted from Nature. With hundreds of illustrations from photographs and carefully written descriptions it is A SAFE GUIDE to success in the garden and should be consulted by everyone who plants either for pleasure or profit. While too costly a book to send unsolicited (except to our regular customers), we are pleased to mail it **FREE to every one** who *has a garden* and can appreciate QUALITY IN SEEDS. Shall we mail YOU a copy? If so, kindly *name this paper* and write **TO-DAY!**

W. ATLEE BURPEE & CO., Burpee Building Philadelphia, U. S. A.

You Can INCREASE Your Corn Crop 30%

or more by using only such seed as has been carefully graded. You will also get far better corn. Government tests have proved that the main cause of *small* crops is an uneven stand. No corn-planter, whatever its merits, can drop seed evenly, *if the seed be carelessly graded or of all sizes that come from the ear.* But, *with seed carefully graded to a uniform size*, any good corn-planter can be depended upon to drop every grain just where you want it and thus make every inch of your ground do the service that it should. Government tests also have proved that the main cause of *poor quality* in corn is the planting of seed *not well selected.*

Careful Grading, Therefore, Is at the Very Basis of All Richly Successful Corn Production.

$1 The Simplex All-Steel Seed Corn Grader $1

easily and quickly separates, in a new and scientific way, the *full, perfect, evenly-shaped* grains from the large, irregular, misshapely grains. Money back if not delighted.

Grades more corn and grades it better than any other device on the market, *regardless of price.* Capacity, 10 to 15 bushels per hour. A boy can work it. No machinery to get out of order. *Made entirely of steel*—nothing to wear out or rot—will last a lifetime.

Simply slip a dollar bill in a letter and mail to us. *You will never invest a dollar that will bring you greater returns.* Grader will reach you promptly. If you don't find it is worth its weight in gold, return it and get your money. Thousands in use. Order today, and we will send with Grader, booklet—"BUMPER CORN CROPS—HOW TO SECURE THEM."

$1,000 PRIZE FAIR OMAHA EXPO.

THE EDWARDS MANUFACTURING CO. 802 to 842 Lock Street, CINCINNATI, O.
Largest Manufacturers of Iron and Steel Roofing in the world.

ANSWER

This Ad and Get My Big FREE Book and Save $50

Buy direct from the biggest spreader factory in the world—My price has made it—Save dealer, jobber and catalog house profit. No such price as I make on this high grade spreader has ever been made before in all manure spreader history. Here's the secret and reason: I make you a price on one based on a 25,000 quantity and pay the freight right to your station. You only pay for actual material, labor and one small profit, based on this enormous quantity on a

GALLOWAY

Get my bran new proposition with proof—lowest price ever made on a first class spreader, with my agreement to pay you back your money after you try it 12 months if it's not a paying investment.

How's that for a proposition? If I did not have best spreader I would not dare make such an offer. 20,000 farmers have stamped their O. K. on it. They all tried it 30 days free just like I ask you to try it—30 DAYS FREE. **Five Sizes—including New Complete Steel Gear Spreader—70-bu. Size.**

Drop me a postal, and say—"Galloway, send me your new proposition and Big Spreader BOOK FREE with low prices direct from your factory."

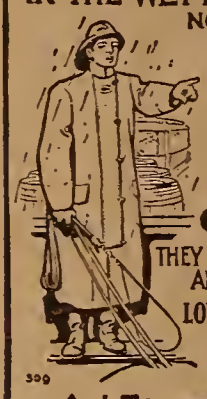
Nobody can beat it. Freight Prepaid

WM. GALLOWAY CO.

Fits Your Own Wagon

749 Galloway Station, Waterloo, Ia.

FOR OUT DOOR WORK IN THE WETTEST WEATHER NOTHING EQUALS



TOWER'S FISH BRAND WATERPROOF OILED GARMENTS

THEY LOOK WELL-WEAR WELL AND WILL NOT LEAK

LONG COATS $3.00 $3.50
SUITS $3.00

SOLD EVERYWHERE CATALOG FREE

A. J. TOWER CO. BOSTON, U.S.A.
TOWER CANADIAN CO. LIMITED - TORONTO, CAN.

Quicker Than 3 Men

You can do more work and do it easier and in less time than 3 men can DO with pick and spade, if you use the wonderful

IWAN POST HOLE AUGER

No hired help, no blisters or backaches. Bores right into wet or dry clay, sand, gravel, gumbo—for 2-ft. post holes or 50-ft. wells. Costs little; saves much. Pays for itself on one job. Write today for free book telling all about it, and letters from men who use it.

Iwan Bros., Dept. H, South Bend, Ind.

BROWN FENCE

For Horses, Cattle, Sheep, Hogs, Chickens, Lawns—A fence for every purpose. Big heavy No. 9 Coiled Spring Wires thickly galvanized. 150 styles at 15 to 35c per rod—We pay Frt. Free sample and catalog.

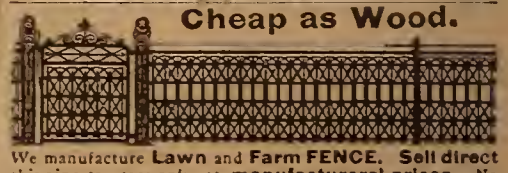
SAMPLE The BROWN Fence & Wire Co. Dept. 21 Cleveland, Ohio. FREE

15 Cents a Rod

For a 22-inch Hog Fence; 16c for 26-inch; 19c for 31-inch; 22 1-2c for 34-inch; 27c for a 47-inch Farm Fence. 50-inch Poultry Fence 37c. Lowest prices ever made. **Sold on 30 days trial.** Catalog free. Write for it today.

KITSELMAN BROS., Box 272, MUNCIE, IND.

Cheap as Wood.



We manufacture **Lawn and Farm FENCE. Sell direct** shipping to users only, at **manufacturers' prices.** No agents. **Our catalog is Free. Write for it to-day.** UP-TO-DATE MFG. CO., 971 10th St., Terre Haute, Ind.

ORNAMENTAL FENCE

25 DESIGNS, ALL STEEL.

Handsome — cheaper than wood—more durable. Special prices to churches and cemeteries. Don't buy a fence until you get our free catalogue.

Kokomo Fence Machine Co., 427 North St., Kokomo, Ind.

FENCE 13c Up Per Rd.

Get our 1909 prices on any style fence. We sell direct, you get all dealers' and jobbers' profit when you buy direct from our factory. Write at once. **Anchor Fence & Mfg. Co., Dept. D, Cleveland, O.**

LAWN FENCE

Many designs. Cheap as wood. 32 page Catalogue free. **Special Prices** to Churches and Cemeteries.

Coiled Spring Fence Co. Box 403 Winchester, Ind.

WARD FENCE Farm and Poultry.

Old fashioned galvanized. Elastic spring steel. Sold direct to farmers at manufacturers prices. Write for particulars.

Ward Fence Co., Box 532 Decatur, Ind.

PATENT YOUR IDEAS

$8,500 for one invention. Book, "How to Obtain a Patent" and "What to Invent" sent free. Send rough sketch for free report as to patentability. Patents advertised for sale at our expense in fourteen Manufacturers' Journals.

Patent Obtained or Fee Returned

CHANDLEE & CHANDLEE, Patent Att'ys
Established 16 Years
910 F. Street, Washington, D. C.

PATENTS that PROTECT

Our 3 books for inventors mailed on receipt of 6 cts. stamps. R. S. & A. B. LACEY, Rooms 28-58 Pacific Bldg. Established 1869. Washington, D. C.

Fruit-Growing

By Samuel B. Green

Scale on Apple

W. S., East Sanford, Ohio—The specimens of twigs and bark of apple-tree sent on are badly infested with scurfy scale and oyster-shell bark scale, sometimes called oyster-shell bark-louse. If you have a large orchard, and it is badly infested with this pest, then the best treatment is to spray with what is known as the lime-sulphur mixture. This, however, requires quite an outfit, which may be difficult for you to obtain.

Washing the trees while still dormant with strong potash or soda lye is a good remedy, and the use of some of the soluble oils has also proven satisfactory.

I would suggest that if you have many trees as badly affected as the specimens that you sent on, you take up the matter directly with the Ohio State Entomologist at the Experiment Station, Wooster, Ohio. He will probably send a man, who will go on the ground and advise you carefully as to what is best, and if you are to save your trees, this is an important thing to do.

Grafting-Wax

Grafting-wax is generally used for covering the wounds made in grafting. A good grafting-wax is one that will not become too soft in summer, so as to melt and run down the stock, or so hard in winter as to crack and split off. A very reliable grafting-wax is made by melting together the following: Resin, four parts, by weight; beeswax, two parts; tallow, one part. When well melted, pour into a pail of cold water, grease the hands slightly, and pull the wax until it is about the color of molasses-candy. Make into balls, and store for use. This wax should be warmed when applied. If it is too hard, more tallow and less resin may be used. Some propagators use linseed-oil instead of tallow.

Oyster-Shell Bark-Louse

W. K. F., Fort Gay, West Virginia—The twig you inclosed is infested with what is known as oyster-shell bark-louse. This is a troublesome scale insect, but not nearly so injurious as the San Jose and some others of this class. The best remedy for it is to scrape the bark of the tree and wash with strong lye in winter while the trees are dormant. An old remedy for this pest is to apply white-wash in midwinter, and when the white-wash comes off in the spring, the scales will nearly all come with it. The so-called soluble oils are also used in the prevention of this insect; also washing the tree with strong whale-oil soap-suds is a good remedy.

Best Season to Cut Wood

N. K., Jones, Michigan—It matters little at what time of the year wood is cut for fuel. As an exact fact, however, it is possible that there is more fuel value in wood cut some time while the tree is dormant—that is, in autumn, winter or early spring—than if cut during the growing season.

The reason for this is that trees store up food in their trunks and roots during the growing season to start them into growth the following years, and when trees are cut at a period when they are dormant, this reserve food contributes to the fuel value of the wood. If cut in June, for instance, there is very little, if any, plant-food stored up in the wood, which makes something of a difference in its weight when dry.

In regard to cutting brush, the best time to cut brush is about the middle of June, since if cut at this time it doesn't sprout at all or not vigorously.

Bordeaux Mixture for Grapes—Leaf-Hopper

B. H. B., Chillicothe, Ohio—Bordeaux mixture is used for preventing injuries from grape-rot and other diseases. It should be applied to grapes as soon as the flowers fall, and at intervals of two weeks until the fruit begins to color. Some of our best growers think it desirable to spray the vines while dormant and before the buds open. I do not think the ants on your vines injure your grapes, but it is more probable that they go on the vine to get the juice from the ripe grapes that have broken, or to get the honey-dew secreted by the plant-lice, of which they are very fond. Since you have so much of the black aphis, or leaf-lice, it is more than probable that this is what they are after. The aphis is certainly injurious, although perhaps not seriously so, to grapes.

I think the little white insect on your grapes is without doubt what we know as the leaf-hopper. This insect feeds mostly on the under side of the leaves by sucking the juices of the plant. The best treatment is to spread thin coal-tar over burlap stretched on frames about four feet square. To do this to best advantage, use ordinary plaster lath well nailed together at the corners. In order to use these to good advantage, two persons should be equipped with them and pass through the vineyard on different sides of the row, holding them close to the vines, which are then jarred, and as the hoppers come out they are caught on tar on these screens. If this is repeated a few times there is very little danger of their causing serious injury.

Fertilizer for Strawberries

Mrs. R. D., Mansfield, Ohio—The clover sod which you turned over will certainly make a good place for strawberries after it has rotted. One of the objections to using clover or grass sod is that the land on which it grows is too liable to be infested with cutworms and white grubs. If you think the soil is not rich enough, and can't use stable manure, I would suggest that you obtain some good complete fertilizer. A good fertilizer of this kind is made up of four hundred pounds of fine-ground bone or fine-ground tankage and about two hundred pounds of muriate of potash. This should be applied when the land is dragged, before the plants are set out.

Seeding Down Orchards

B. A. H., Paynesville, Nebraska—If your apple-trees are five years old, and you cannot cultivate them any longer without danger of injuring the trees, it seems to me that they must be too close together, and it is better that they should be thinned out. It is hard for me to advise you in a matter of this kind without knowing more about the details.

As a general thing I dislike seeding down an orchard to grass. I think it much better to seed it to clover and break it up occasionally, and then seed down again; but the best orchards are those that are kept with a dust blanket on them and do not have either grass or clover for any long period. Of course, it is necessary to use a cover crop occasionally, or the soil becomes loose and washes out.

The Stage in the Development of the Apple Blossom When It Should Be Sprayed for the Codling-Moth

The Value of Apple Wood

Mrs. R. B., Kenton, Kentucky—Apple wood is heavy, firm, compact and strong, the heart-wood of a beautiful dark brown, and the sap-wood of a light brown color. It is used occasionally in nice cabinet-work, for which purpose it is well adapted when it can be obtained of sufficient size. It makes excellent fuel. I do not know of any parties who are in the market to buy this, and would suggest that you write to the American Lumberman, Chicago, Illinois, and to the Southern Lumberman, St. Louis, Missouri. They would probably know if there is any market for it at this time.

CUT YOUR ROOFING COST ONE-HALF!

There is nothing to rot in "Climax Asphalt" or "Veribest Rubber" Roofing—no coal tar or anything else to injure their quality.

There is no better roofing made. Will wear for years. Some customers say 15 years—some say forever. Both brands will stand the severest tests of rain, wind, sun and snow. Neither the heat of summer nor the cold of winter will injure them. "Climax Asphalt" and "Veribest Rubber" are fire-proof roofings. Insurance companies indorse them. Buildings on which either of these roofings is used come in for the same low insurance rate as slate, tin or iron. These roofings are the best product of 20 years' experience. They stand the severest tests in all climates, under all conditions.

Write for Free Samples, Roofing Book and our money-saving low prices. "Climax Asphalt" and "Veribest Rubber" Roofings are sold under a positive guarantee.

McHenry-Millhouse Manufacturing Co.
Station A, South Bend, Ind.
"The Roofing that Never Leaks"

$50 TO $300 SAVED

We are manufacturers, not merchants. Save dealers, jobbers and catalog house profit. I'll save you from $50 to $300 on my High Grade Standard Gasoline Engines from 2 to 22-H.-P.—Price direct to you lower than dealers or jobbers have to pay for similar engines in carload lots for spot cash.

GALLOWAY

Price and quality speak for themselves and you are to be the sole judge. Sell your poorest horse and buy a 5-H.-P. only $119.50

You Can Make From $5 to $10 a Day

Direct From My Factory on 30 Days' Free Trial. Satisfaction or money back. Write for special proposition. All you pay me is for raw material, labor and one small profit. Send for my big BOOK FREE.

Wm. Galloway, Pres.
Wm. Galloway Co.
745 Galloway Station
Waterloo, Iowa

2 H.P. Stationary Engine $29.50 ENGIN ONLY

2½ to 8 H. P. Proportionate Prices.
For use on the farm and in the shop.
Runs cream separators, churns, pumps, grist mills, corn shellers, washing machines, lathes, printing presses, etc. Burns kerosene, (coal oil) alcohol, gasoline, naphtha, distillate, without change of equipment, starts without cranking, throttling governor, drop forged crank shaft, best grade babbitt bearings, free catalog tells how to save half cost of hired help. Testimonials. 10,000 in use. All sizes in stock ready to ship.
DETROIT ENGINE WORKS
133 Bellevue Ave., Detroit, Michigan

Stickney Gasoline Engines ARE THE BEST

Why? Because of the outside igniter, modern open cooling system, straight-line valve motion and ball-bearing governor. Thousands in successful operation because of our years of experience in building the best. Seven sizes: 1½ to 16 H.P.

Send for our Free Catalog and our Catechism telling fifty-seven reasons why Stickney Engines are the Best. Agents everywhere sell them.

Charles A. Stickney Company
MAIN OFFICE & FACTORY ST. PAUL, MINN.

OSGOOD Pitless SCALE

Indispensable on every farm; saves the time and money you would spend on a public scale, and assures perfect accuracy always. Priced within your reach; good for a lifetime. Osgood Scale Co., Box 165 Binghamton, N.Y.

$45 to $80

Write for Catalogue

GOES LIKE SIXTY
SELLS LIKE SIXTY
SELLS FOR SIXTY $60
GILSON GASOLENE ENGINE

For Pumping, Cream Separators, Churns, Wash Machines, etc. FREE TRIAL. Ask for catalog—all sizes

GILSON MFG. CO. 445 Park St. Port Washington, Wis.

THE LARGEST AND BEST LINE OF
WELL DRILLING MACHINERY in America. We have been making it for over 20 years. Do not buy until you see our new Illustrated Catalogue No. 15. Send for it now. It is FREE.
Austin Manufacturing Co., Chicago

A WAY OUT OF YOUR ROOF TROUBLES
American Ingot Iron Roofing
Guaranteed For 30 Years
Without Painting
The Only Guaranteed Metal Roofing ever put on the market. Samples free. Write for a free book showing remarkable tests.
THE AMERICAN IRON ROOFING CO., Dept. K, ELYRIA, OHIO

EVER NEED LUMBER?

Make It Yourself
If you have timber, save money and make money sawing for others, with a Portable
American Saw Mill
Simple, reliable, little power needed, no experience necessary. Catalog free. Also describes wood-working machinery of all kinds.
AMERICAN SAW MILL MACH'Y CO.
130 Hope St., Hackettstown, N.J.
1576 Terminal Bldgs., New York

A Great Offer
in vegetable and flower seeds
to build up new business by introducing our HIGH GRADE SEEDS where they are not now known. We offer 10 splendid varieties, and want every reader of this paper to give them a trial.
10 PACKETS FOR 10 CENTS
Cabbage—Wakefield Best extra early
Cucumber—Long Green. Best for pickling
Carrots—Ox Heart. Decidedly best sort
Lettuce—Henderson's N. Y. The best
Radishes—Best Early and Late mixed
Tomato—Chalks Early Jewel. Best early
Turnip—White Strap Leaf. Very popular
Asters—Prize Mixed. Unequaled mixture
Poppies—All the best varieties, mixed
Verbena—Giant Flowered varieties, mixed
We guarantee these seeds to give you perfect satisfaction.
Write to-day. Mention this paper.
FREE Our beautiful illustrated catalog of the best VEGETABLES, FLOWERS and FRUITS that grow.
L. TEMPLIN SEED CO.,
Desk F., Calla, O.

P&O
CANTON PLOWS
Harrows, Corn Planters, Listers, Cultivators, Stalk Cutters, Potato Diggers, Beet Implements, Carts, Garden Tools, etc. Most complete line made. For 67 years the Best, and backed by an unqualified Guarantee. Ask your dealer for P. & O. Canton Implements and write us for Catalog No. 99.
Parlin & Orendorff Co., Canton, Illinois.

Spray Your Fruit Trees AND VINES
Destroy the fungi and worms, and thus be sure of large yields of perfect fruit.
Excelsior Spraying Outfits and Prepared Mixtures are used in large orchards and highly endorsed by successful growers. Write for our money-saving catalog, which also contains a full treatise on spraying Fruit and Vegetable crops.
WM. STAHL SPRAYER CO.,
Box 109-P, Quincy, Ill.

$1,500 PROFIT MADE ON CIDER
Write for our free catalog which fully describes and illustrates The Original
Mt. Gilead Hydraulic CIDER PRESSES
For custom work in your locality they are money makers. Built in sizes 10 to 400 barrels per day. Hand or power. Also Steam Evaporators, Apple-Butter Cookers, Vinegar Generators, etc. We can show you how $1,500 clear profit can be made.
Fully Guaranteed
Hydraulic Press Mfg. Co., 126 Lincoln Ave., Mt. Gilead, Ohio.

10 PEACH TREES FREE
or other trees of equal value. We save you 50%. Write today for our FREE OFFERS. BIG BARGAIN LIST and CATALOG.
ESTABLISHED 56 YEARS
THE PHOENIX NURSERY COMPANY,
Dept. Q, Bloomington, Illinois.

Take Off Your Hat to the MYERS
The only Glass Valve Pump—never sticks—never fails—always ready. Also HAY TOOLS, Barn Door Hangers, Hay Rack Clamps. Write today for Circulars and Prices.
F. E. Myers & Bro., 30 Orange St., Ashland, O.
THE PUMP THAT PUMPS

6 TREES FREE To prove that our Blizzard Belt Evergreens will grow in all parts of the country we offer to send 6 Fine Spruces ¼ to ½ ft. tall free to property owners. Wholesale value and mailing expense over 30 cents. To help, send 5 cents or not as you please. A postal will bring the trees and our catalog containing many colored photo plates of our choice Blizzard Belt Fruits. Write today. The Gardner Nursery Co., Box 34, Osage, Ia.

WURLITZER BAND INSTRUMENTS
We Supply the U. S. Government.
Prices Cut in Half
this season. Our large new 104-page Band instrument catalog Sent FREE. Write to-day.
THE RUDOLPH WURLITZER CO.
124 E. 4th St. Cincinnati; or,
348 Wabash Ave. Chicago, Ill.

The Louden Way
of saving labor—absolutely indispensable on your country place. Write for catalog of Louden Litter Carriers, Hay Carriers, Sanitary Steel Stalls and Stanchions, Flexible Barn Door Hangers and other labor-saving devices. LOUDEN MACHINERY COMPANY, 683 Broadway, Fairfield, Iowa.

ADMIRAL 2 MAN PRESS.
3 FEEDS TO THE ROUND
SELF FEEDER
2 PROFITS IN HAY BALING
BOX 17
ADMIRAL HAY PRESS CO., Kansas City, Mo.

CAN YOUR OWN FRUIT & VEGETABLES
Keep Profits at Home. We'll Show You How.
CANNERS' SUPPLY CO., DETROIT, MICH.

Get My Book Before Too Late For Chicken Time

Johnson says: Don't delay too late—better hurry up and send your name. It's most May time. My Big Poultry Book is better than ever—every page of 200 and every photograph out of over 1200 a poultry lesson. Just find out about

Old Trusty Incubator

Over 100,000 in use. 40, 60 or 90 Days' Trial for 3 Hatches. 10-Year Guarantee. 75 per cent better hatches guaranteed. Don't pay two prices—my price is under $10 complete ready to hatch, sent promptly, freight prepaid east of the Rockies. Get my Big, Free Book.

Johnson Pays the Freight

M. M. Johnson
Incubator Man, Clay Center, Neb.

We Give Them Away!

We have printed, for free distribution, several thousand copies of The Incubator Book. If you want a copy, *get busy!* Send a postal and book comes, all charges prepaid, by return mail. It tells the things you must know if you make extra large profits raising chickens.

Sure Hatch Incubator

The Incubator Book tells what makes the "Sure Hatch" the Champion of the World. Tells all about the "bargain" incubators. Shows why they fail. More good, practical help for poultry raisers than in any other book ever sold for $2—yet it is free for the asking. Send today. Address

SURE HATCH INCUBATOR CO.
Box 66, Fremont, Neb., or Dept. 66, Indianapolis, Ind.

Eggs for Hatching

Better Bred Birds

Your choice from 100 strains, the paying kind. Bred from prize winners. Booklet on "Proper Care and Feeding of Chicks, Ducks and Turkeys," 10c; Poultry Paper, 1 year, 10c, Catalog Free.

ROYAL POULTRY FARM
Dept. 180. Des Moines, Iowa

Greider's Book on Poultry

Shows and describes sixty breeds, and lowest prices of stock and eggs. All details—hatching, raising, buildings, egg production, disease, etc. Fifteen handsome chromos. 10c postpaid.
Greider's Germicide keeps fowls healthy.
B. H. GREIDER, Rheems, Pa.

FENCE *Strongest Made*

Made of High Carbon Double Strength Coiled Wire. Heavily Galvanized to prevent rust. Have no agents. Sell at factory prices on 30 days' free trial. We pay all freight. 37 heights of farm and poultry fence. Catalog Free.

COILED SPRING FENCE CO.
Box 30 Winchester, Indiana.

ORNAMENTAL WIRE AND STEEL FENCE

Cheaper than wood, combining strength and art. For lawns, churches, cemeteries. Send for FREE CATALOG. Address.
The Ward Fence Co.
Box 665 Decatur, Ind.

AGENTS

12 Tools in One

wanted to sell this most complete of all combination tools. Serves as stove-lid lifter, screw-driver, wrench, hot pan lifter, tack hammer and puller, and 100 other uses. Sells at sight to farmers, storekeepers, in homes, offices, etc. Write today for our FREE OUTFIT OFFER to workers.
T. THOMAS MFG. CO., 205 Barney Block, Dayton, Ohio

About Practical Poultry-Raising

Nests for the Layers

When the hens steal away to some out-of-the-way place to build a nest there is something wrong with the nests provided for them.

The hens prefer nests in the poultry-house if they are comfortable, but when nests and houses are dirty and full of lice they are apt to seek laying-places elsewhere. So one cannot keep the house too clean or go after lice too vigorously if it is not desired that the hens' eggs should be deposited where they may never be found.

When days are very warm and the hens go on to lay, the temperature of the nest will be very high. This furnishes an ideal condition for the lice to multiply. Nests should be examined, and if dirty or lousy, cleaned at least once every week. Burn the contents of the boxes and put in new material. First put a layer of dirt in the bottom of the box, then the nest material. Sprinkle lice-powder over the top of this.

Don't place nests too high. The best-arranged nest is one permitting the hen to walk in. When a hen is compelled to fly up, and then down on the eggs already in the nest, some are pretty sure to be broken every day.

Keep the house cool and darkened during the daytime. Some hens refuse to lay in nests exposed to much light.

W. F. Purdue.

Incubators Not Always the Cause of Poor Hatches

It is a fact that the inexperienced incubator-operator is too hasty sometimes in laying poor hatches to the incubator. A poor machine will sometimes hatch good eggs, but a good machine will never hatch poor eggs.

I have visited the yards of poultry-raisers a great many times, where I have found conditions and environments so bad that I even wondered that the fowls themselves lived, let alone producing eggs, strong and fertile. Just as like as not, the owner of these same flocks have experimented with incubators and brooders, and have been made to believe through ignorance that the machine was at fault, instead of their own shiftlessness.

If the vitality of the breeding-stock is low it will show itself in the offspring even after they are put in the brooder, and is undoubtedly the direct and exclusive cause in many cases of bowel trouble, which annually causes so much mortality in brooder-chicks. There is no question in my mind, either, but that low vitality in the breeding-stock is the cause of death for ninety per cent of those chicks which die in the shell annually. An egg containing a weak germ from a weak parent will undoubtedly start to grow, and may live until the nineteenth or twentieth day, and not possess vitality enough to break the shell and expel itself. I am even going still further than this, and make the assertion that more than ninety per cent of all mortality among chicks, whether hatched under hens or in incubators, can be directly traced to debilitated parent stock. If I am right, then to get good results with incubators and brooders the way is plainly shown.

Archie E. Vandervort.

A Hen That Has Hiccups

A lady friend has a Rhode Island Red pullet that has what seems to her hiccups. She asks what to do for it.

It is likely that this biddie has a cold, and that what appears to be hiccups is really a cough. I have had hens that made the same kind of a noise, and I always thought it was a cold cough. If this is so, I would not try to do much for it. Fresh air, not coming in a direct draft on the roosts, and good feed will cure most cases. But a simple remedy, and one used by my sister, is a bit of melted vaseline, given through the mouth and a little rubbed well on the neck and about the head. I am not much of a hand to doctor hens, nor anything else, for that matter, not even myself, with drugs. Nature's remedies are best.

And then, too, there might be something sticking in the pullet's throat. That sometimes happens. Could not our friend look and see if this were true? It might be that by rubbing the throat gently, this obstruction, if there were one, might be removed. In case of pneumonia or roup other members of the flock might be affected, but this does not appear to be the case. Probably this trouble will soon pass away.

E. L. V.

Poultry Remedies

I started with chickens on an old farm, where most, if not all, of the common poultry diseases, especially gapes, had at some time held full sway.

I inquired among my neighbors for a reliable remedy, and was advised to get a certain poultry powder which was to be freely dusted about the poultry houses and yards, in the nests, on the roosts, in the water and on the hens themselves.

If the little chicks were noticed sneezing or gaping, to put them in a tight box, and blow this powder into the box, causing the chicks to sneeze violently, and in most cases dislodge the gape-worm in the throat. In bad cases, to mix the powder with the food, and force down the ailing ones. That remedy did the work, and although rather expensive, it paid me to keep a supply on hand.

Before the next season opened, the manufacturers of this remedy were deep in a lawsuit, and the factory was closed indefinitely. My poultry troubles began to look big again. I had many gaping chickens with no remedy.

Our state board of health said, "air-slaked lime is the best and cheapest disinfectant in use."

I filled my old poultry-powder box full of air-slaked lime, and followed directions, with a few exceptions, using coal-oil in the nests and on the roosts, and did not mix the lime in the food; otherwise I tried to follow the directions as given on the old box, but I had a tendency not to be as faithful with the lime as I had been with the powder.

I believe it is a common fault with most of us not to give a cheap, home remedy as fair a test as we give an expensive, specially prepared one. The powder cost one dollar a gallon. Yet with lime at one dollar a barrel, and oil at fifteen cents a gallon, I got practically the same results as with the powder.

N. R. Hicks.

Birds for Display

From a friend comes the following:

"What would you consider the best display-chicken—the largest number of birds entered, or the chickens scoring the points in perfection, taking into consideration that they are the same breed of fowls?"

Points count for more than numbers. Were this not so, one might so crowd the display-yards that there would be no more room for his birds, and so carry away the prizes. Who of us would not choose a bird that has beauty and all other marks of excellence, rather than many birds which have little or nothing to back up their claims to the blue ribbon? Work for superior form and laying ability, dear friend; this is the only sure way to success.

E. L. V.

Shipping Eggs

It requires considerable skill and good knowledge of details to pack eggs for hatching so they will reach their destination in good condition and hatch well. Some use boxes, and while they may be all right, I have had much better results with baskets. Eggs shipped in boxes are liable to be thrown around and roughly handled, while baskets will be handled much more carefully and are much cheaper.

I exercise the same care and follow the same rule for packing one sitting as I do for one hundred eggs, except as to the size of the basket, always having my package just large enough to hold the eggs and the necessary packing material. If the order calls for one hundred or one hundred and twenty eggs a bushel basket is needed. First line the basket with newspapers, and then put about one inch of excelsior in the bottom of the basket. Now we are ready for the first layer of eggs. After wrapping each egg in soft paper, it is laid so that a one-inch space is left between the eggs and the sides of the basket, also a half-inch space between the eggs. These spaces are filled with excelsior crowded in firmly, so as to keep the eggs from the sides of the basket and to keep them from shaking. This bottom layer of eggs is then covered, and all the other layers likewise packed and covered. The top covering is rounded up, so that when the canvas cover is sewed on and drawn down tight, the eggs cannot by any possibility shake around in the basket.

The label can best be sewed to the canvas cover before the cover is put on the basket. Have "Eggs for Hatching, Handle With Care," printed on your label in good-sized type. Use a darning-needle and strong cotton string, and sew the canvas to the rim of the basket, drawing it down tight, so that the packing will spring up when pressed upon by the hand.

A basket about the size of a ten-pound grape-basket will hold a sitting of eggs. For two sittings a one-fourth-bushel basket is necessary, and for fifty eggs a one-half-bushel basket is required. Excelsior for packing the eggs can usually be procured at grocery or furniture stores. For wrapping the eggs, a soft grade of newspaper is used. The eggs are placed in the baskets on ends, preferably, with the little end down.

Eggs to ship safely must have a strong shell. For this purpose keep oyster-shells before the hens all the time, as well as plenty of green food.

Fertile eggs with strong shells, rightly packed, can be shipped safely by express, and can be depended upon to hatch well.

A. E. V.

Ending Poultry Troubles

Every man who keeps hens and aims to handle them as a business proposition is more or less troubled with a whole row of dull-eyed worthless drones, squatted on the roosts at midday with heads pulled down between their shoulders, just waiting for the next meal. It's the hen that's off the roost at daybreak and hustles all day long that fills your egg basket.

Dr. HESS Poultry PAN-A-CE-A

puts the hen to work, invigorates and tones up every organ, makes hens lay and cures gapes, cholera, roup and other poultry diseases. Dr. Hess Poultry Pan-a-ce-a is not a poultry feed—it's a tonic. To raise your own feed and give Poultry Pan-a-ce-a to help digest it is "The Dr. Hess Idea." His knowledge of medicine and years of experimenting is responsible for this preparation. Besides, it is sold on a written guarantee. Feed Poultry Pan-a-ce-a to your hens and they'll lay in zero weather.

1½ lbs. 25c; mail or express 40c. 5 lbs. 60c, 12 lbs. $1.25, 25 lb pail $2.50 Except in Canada and extreme West and South. DR. HESS & CLARK, Ashland, Ohio.

Send 2c for Dr. Hess 48 page poultry book, free.

DR HESS STOCK FOOD points the way to profitable stock keeping. It has always been a serious problem with feeders, how to prevent digestive disorders and loss of appetite in heavily fed animals. Dr. Hess Stock Food, the prescription of Dr. Hess (M. D., D. V. S.) contains the bitter tonics recognized in medicine for improving digestion; iron, everywhere known as a blood builder, and nitrates for cleansing the system of waste material, and laxatives which regulate the bowels. Increasing the stockmen's profit by giving tonics, etc., that improve digestion, is known as "The Dr. Hess Idea." Not feed but increased digestion is what Dr. Hess Stock Food supplies. It pays by increasing digestion; by making stock thriftier and healthier; by saving the loss liable by disease; besides, the stock like it; it seasons their ration, provides a relish that also aids digestion. 100 lbs $5.00; 25 lb. pail $1.60, except in Canada and extreme West and South. Sold on a written guarantee. Fed in a small dose.

Send 2c for Dr. Hess Stock Book, free.

INSTANT LOUSE KILLER KILLS LICE

Live Stock and Dairy

Hog-Cholera and Suggestions for Its Prevention

THIS country and Europe vie with each other in trying to place the blame for this disease, which is such a menace to stockmen in many sections of the United States. The first account of the disease here appeared in 1843, and the idea at that time was that it had been imported from Europe. But certain it is that it was not described in Europe until some years after it was recognized here, and in some parts of the continent it was not known until the past few years. The area there seems to be confined chiefly to Denmark, Holland, Sweden and Scandinavia, and it also exists in England, where it is called swine-fever, or pig typhoid. The fitness of this name will be pointed out later.

In this country it is an extremely prevalent disease and the loss is enormous. It is estimated by the Bureau of Animal Industry in Washington that the loss is about thirty million dollars annually, and the government has expended large sums of money in carrying on investigations of the disease and in endeavoring to ascertain methods for its prevention.

The Hog-Cholera Bacillus

In undertaking the investigation of any disease, the first step is to find out the cause. Efforts were made to do this soon after the bureau was established, but that early work was very erratic and the first work of any value was that of Theobald Smith, who took up the work in the bureau in 1885, and who discovered the hog-cholera bacillus, which has been considered undoubtedly the cause of the disease. This has recently been disputed, but certain it is that the organism stands in a very interesting relation to the disease. After the discovery of the bacillus by Smith and Doctor Salmon, who was then at the head of the bureau, there followed much confusion in scientific circles. This was largely due to the claim of Doctor Billings of the University of Nebraska, that the work of the department was altogether unfounded and that there was no bacillus of hog-cholera at all.

Now, there is found in hogs dead of hog-cholera another micro-organism which in many of the lower animals is highly pathogenic and is found in the lungs of swine after death from hog-cholera. This organism is the bacillus of swine-plague and is identical with the bacillus of "Schweinse uche," a disease which occurs in the form of epizoötic pneumonia and is particularly prevalent in Germany. Doctor Billings claimed that the organism of Smith and Salmon was nothing more than the bacillus of swine-plague. But it was found that the organism with which he was working was not that of swine-plague, but was identical with the hog-cholera bacillus. The matter is now practically settled and we have every reason to believe that the organism described by Smith is the cause of hog-cholera.

Symptoms That Aid in Identifying the Disease

As mentioned above, the disease has been called pig typhoid, and certainly the bacillus itself has many properties resembling those of the typhoid bacillus, and the anatomical changes in the animal resemble those produced by typhoid in the human more than any other. The disease is epizoötic, so that if one animal dies of it, others will succumb, thus by its spread causing tremendous losses. It is very prevalent in the Middle West and in Maryland, Delaware and Pennsylvania, but not so much so in New England. Sometimes it is very acute, the animal succumbing in a few hours, but it generally lasts about a week, and sometimes two or three weeks, the animal generally succumbing, but occasionally recovering. In acute cases we find a reddening of the skin; lesions in the intestines, especially the large intestine, and occasionally these same lesions in the mouth; the spleen is often swollen to three or four times its natural size, very firm and dark red; and the liver becomes mottled. This is the organism which really drew the attention of medical men to the so-called focal necroses of the liver. These symptoms are accompanied by a rise in temperature. These symptoms are mentioned in order to aid in identifying the disease.

Now that we are familiar with the cause of the disease, and know something of the appearance of the animal affected, it will be interesting to discuss means for its prevention and the possibility of a cure. The prevention seems to be the cure—that is, to do all in our power to prevent an infection. In the first place, it may be well to mention that mice and rabbits are very susceptible to the disease, and might be very potent factors in its dissemination. Also there is much greater danger of infection during a dry season than in a wet one. No bacteria can ever be carried by the wind, or are they ever likely to be disseminated by any other means until desiccation takes place. The hog-cholera bacillus has a very high degree of vitality and can survive for a comparatively longer period of time than most species under adverse conditions. For this reason it is particularly hard to eradicate, but by taking a certain amount of precaution we can be pretty sure of keeping the premises free from contamination. The bedding of the swine should be changed frequently and the walls of the pen should be kept well whitewashed with lime to which sulphur and carbolic acid have been added in small quantities. The material fed to the swine should also receive attention, and the old idea that the hog is a scavenger and should be utilized as a means of sewage disposal on the farm should be done away with.

Another pregnant source of dissemination is by means of buzzards. Reference is here made to the practice which prevails in many localities of hauling out the dead animals to some more or less remote spot, and instead of burying the animal, leaving it to the prey of the vulture. This practice is disgusting, and it would be well to urge that the state legislatures pass a law compelling the burial of all dead animals of hog-cholera, and in fact of all stock dead of any disease. This law prevails in some states and is certainly a very excellent precautionary measure as regards the matter of general public health. The bacilli pass through the digestive tract of this scavenger, and may be found fully alive in the excrement. In this way an outbreak of the disease may occur in a locality some distance from where any animals have been attacked. This is probably the greatest factor in scattering the hog-cholera.

E. P. WALLS.

To Cure Thumps in Pigs

IF THE total yearly loss from thumps in pigs could be accurately estimated, it would amount to an astonishing figure. And it is all the more unfortunate, because with reasonable care this loss can be almost entirely eliminated.

The disease can be recognized very easily by the characteristic symptoms of a jerking movement of the flank, the pulsations being so violent at times that as the pig stands the whole body seems to jerk backward and forward. This jerking movement is caused by excessive palpitation of the heart or diaphragm, this in turn being caused by a diseased condition of the blood brought about usually by overfeeding and an insufficient amount of exercise.

It is especially common with pigs that come during the late winter and early spring, when the weather is often such that the pigs cannot get out of the pen comfortably. There is always a desire on the part of every farmer to make the early litters do well, and the manner in which the little fellows are growing and rounding out and becoming fat is noted with satisfaction, only to be rudely shocked some day to find them attacked with thumps, and a portion or perhaps all of the litter lost.

If the weather is such that it is not safe to turn the little fellows outdoors and allow them to follow the sow around, the sow should be turned out of the pen at least twice a day and the pigs left in. Then, if the pigs seem indisposed to exercise themselves, it would be well to get in the pen with the pigs and run them around for a few minutes each time. The sow should be fed very carefully and none of the pigs should be permitted to become overfat.

After the disease appears, if it is noticed at once it may possibly be overcome by exercising the pigs in the manner indicated. If it has progressed until the pulsations are violent, a physic of one to two ounces of castor-oil and five to ten drops of tincture of opium and digitalis may be given three times a day until relief is secured. If the case is very severe the dose may be given oftener. It should be remembered, however, that the important things are to reduce the feed and give the pigs plenty of exercise.

WM. H. UNDERWOOD.

To get the full capacity out of young horses without injury, moderation in the beginning of every task imposed upon them must be used. W. H. U.

DE LAVAL SEPARATORS MAKE THE BEST BUTTER

The one purpose of every thinking buyer of a cream separator is the making of the most and the best cream possible, whether for home buttermaking, creamery patronage, or any other use to which cream is put.

It is possible to "claim" almost everything for the various makes of cream separators, but the one indisputable fact that would-be competitors do not even attempt to get around is the unquestionable superiority of the DE LAVAL machines in the making of the best butter.

Year after year, dating back to the invention of the "ALPHA-DISC" system of DE LAVAL bowl construction, butter made by users of DE LAVAL machines has scored highest and won all higher awards in every large and thoroughly representative butter contest throughout the world.

Beginning with the first great annual contest of the NATIONAL BUTTERMAKERS ASSOCIATION in 1892 and ending with the 1908 contest, not only the HIGHEST but every anywhere near high award has been made to users of DE LAVAL separators and more than nine-tenths of all exhibits scoring above 90% in quality have been DE LAVAL made.

THE ROLL OF HONOR
ALL DE LAVAL USERS

The First Prize winners and their scores at every convention of the National Buttermakers Association since its organization in 1892 have been as follows:

1892	Madison, Wis., Louis Brahe, Washington, Iowa	Score 98.
1893	Dubuque, Iowa, C. W. Smith, Colvin's Park, Ill.	Score 97.
1895	Rockford, Ill., F. C. Oltrogge, Tripoli, Iowa	Score 98.
1896	Cedar Rapids, Iowa, Thomas Milton, St. Paul, Minn.	Score 97.82
1897	Owatonna, Minn., H. N. Miller, Randall, Iowa	Score 98.5
1898	Topeka, Kan., Samuel Haugdahl, New Sweden, Minn.	Score 98.
1899	Sioux Falls, South Dakota, A. W. McCall, Creston, Iowa	Score 97.
1900	Lincoln, Neb., H. T. Sondergaard, Litchfield, Minn.	Score 98.
1901	St. Paul, Minn., E. O. Quenvold, Owatonna, Minn.	Score 97.
1902	E. L. Duxbury, Green Bay, Wis.	Score 98.5
1904	St. Louis, Mo., L. S. Taylor, Glenville, Minn.	Score 98.5
1906	Chicago, Ill., A. Carlson, Rush City, Minn.	Score 97.
1907	Chicago, Ill., A. Lindblad, North Branch, Minn.	Score 97.5
1908	J. C. Post, Hector, Minn.	Score 98.

(There were no conventions in 1894, 1903 and 1905.)

In the great 1908 contest 504 of the best buttermakers in the United States competed, with first, second and third, and all important awards, being made to users of DE LAVAL machines.

At each of the big Chicago National Dairy Shows DE LAVAL butter has made a CLEAN SWEEP of all highest prizes, and at the December 1908 Show, when instead of butter there was a cream contest, under the supervision of the Dairy Division of the United States Department of Agriculture at Washington, first and second prizes in both classes were won by DE LAVAL cream.

Going back further, DE LAVAL made butter received the GRAND PRIZE at the ST. LOUIS WORLD'S FAIR and as well at the last PARIS WORLD'S EXPOSITION.

In all the hundreds of important state and country contests the world over for twenty years the superiority of the DE LAVAL separator in the making of fine butter has been conclusively proven.

THE EXPLANATION IS TO BE FOUND IN THE IDEAL DESIGN AND CONSTRUCTION OF THE DE LAVAL SEPARATING BOWLS AND THE THOROUGHLY PRACTICAL CONDITIONS UNDER WHICH DE LAVAL MACHINES MAY BE OPERATED AND USED.

A new 1909 DE LAVAL catalogue—affording an education in this as in other features of separator knowledge—is to be had for the asking.

THE DE LAVAL SEPARATOR CO.

42 E. Madison Street
CHICAGO
1213 and 1215 Filbert Street
PHILADELPHIA
Drumm and Sacramento Sts.
SAN FRANCISCO

General Offices:
165-167 BROADWAY,
NEW YORK.

173-177 William Street
MONTREAL
14 and 16 Princess Street
WINNIPEG
107 First Street
PORTLAND, OREG.

UNITED STATES Cream Separators

U.S.

Everybody knows the name **United States** on a Separator is an absolute guarantee of Superior Quality, Long Service and Absolute Satisfaction.

Best To Buy

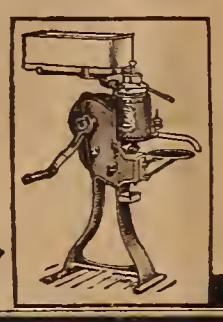
That is the best sort of economy; it means a saving of money to you. Why then run any risks with "cheap" makes?

See the U. S. Separator Dealer

Let him show you how a **United States Separator** is made, its perfect mechanical construction, strong, solid, one-piece frame, no bolts to shake loose with wear. Scientific construction of the Separator bowl. You can readily see for yourself how the purchase of a **United States Separator** means economy for you. If you do not know a United States dealer let us send you his name.

A request by postal card for United States Separator Catalogue No 69 and mentioning this paper, will bring you a beautiful hanger lithographed in colors.

VERMONT FARM MACHINE CO.
Bellows Falls, Vt.



U.S.

A GUIDE TO THE LAST WEST

Copyright 1907 by J.P. LUSE

The Homeseeker's Last Ride

You will never know humanity's hunger for homes until you have seen the rush for Western Canada. Over seven million acres have been taken up under Government regulations since the first of last September. 12,900 miles of new railways will be built this year. 210,000 American farmers are among the half million new inhabitants. The increasing trade with the Orient is fast making Vancouver one of the greatest small grain markets of the world. The completion of the Hudson Bay Railway now under construction will shorten the freight haul to Liverpool by over 1700 miles, and make wheat worth eight cents more per bushel. Watch the daily papers this month for mention of our immigration trains leaving the states for the **Tramping Lake District** of Saskatchewan. Sixty per cent of the thousands of acres we sold in 1908 were purchased by actual settlers.

Write us without delay for a copy of our illustrated book, **a Guide to the Last West.** It will open your eyes to many impressive facts about Canada.

Address LUSE LAND & DEVELOPMENT COMPANY, Limited
Main Office 210 Germania Life Building, St. Paul, Minn.
Owners of Large Tracts of Canadian Lands.

CORNING-LEE

WAIST HIGH

EASY RUNNING

$29.75 FOR THIS NEW LOW DOWN AMERICAN $29.75 CREAM SEPARATOR

A SEPARATOR THAT EXCELS ANY SEPARATOR IN THE WORLD

DON'T HESITATE BECAUSE OUR PRICE IS LOW. The quality is high; we guarantee it. It is up to date, well built and well finished. It runs easier, skims closer and has a simpler bowl with fewer parts than any other cream separator. Don't accept our word for it. Judge for yourself. Our offer enables you to do this at our expense. Write us a postal card or a letter and receive by mail, postpaid, our 1909 catalogue. It is handsomely illustrated, showing the machine in detail, and fully explains all about the Low Down AMERICAN. It also describes the surprisingly liberal LONG TIME TRIAL proposition we can make you. Competition is defied by the quality and price we make. Our generous terms of purchase will astonish you. Remember, we are the oldest exclusive manufacturers of hand separators in America, and the first to sell direct to the user. You are not dealing with any agent, middleman or catalogue house when dealing with us. Not one single profit is paid anyone between ourselves and our customer. You save all agents', dealers', even catalogue house profits and get a superior machine by dealing with us. Our New Low Down AMERICAN Waist High Separator is the finest and highest quality machine on the market and our own (the manufacturer's) guarantee protects you on every AMERICAN Separator. We can ship immediately. Western orders filled from Western points. Write us and get our great offer and handsome free catalogue on our New Low Down AMERICAN Separator. Address

AMERICAN SEPARATOR CO., Box 1055, BAINBRIDGE, N. Y.

$3,000 to $10,000 PER YEAR In the REAL ESTATE BUSINESS

The Real Estate Business offers greater opportunities to the man without capital than any other line. The field is unlimited and there is plenty of room for you. I will teach you the business by mail and appoint you my Special Representative and I will give you splendid chances to make money from the start. You can work all or part of your time. One of our representatives made $600 in one month, another

$2400 IN TWO MONTHS.

Both were inexperienced before joining us a few months ago. My company is constantly handling some of the best real estate propositions in America and no matter what you are doing now, I can help you make money if you will join my big co-operative force. This is the greatest real estate organization in the world, and if you would like to know all about our splendid plan, write me for my book, which tells how you can start a successful real estate business. This book is absolutely free. Write me today.

Address HERBERT HURD, Pres. GRAY REALTY COMPANY, 250 Reliance Building, KANSAS CITY, MO.

Live Stock and Dairy

The Stock-Breeder

Great as is the scope for skill in the management of soil and crops, there is still greater scope in the management of live stock. When a farmer buys the seed for a crop, no skill in tillage will make any variation in the kind of crop. When the stock-breeder goes to work, it lies largely with his own judgment and skill whether he produces an improved animal or not. Continued selection and hybridization have made farm crops what they are, and with ordinary cultivation there is little tendency to deteriorate. In the case of live stock a single generation may make the greatest difference either for better or for worse.

It cannot fail to strike the observer how wonderfully uniform in appearance wild animals are. Rabbits, hares, foxes, etc., are each an exact reproduction of the type. This is not the case with the domesticated animal. The more the breeding of the stock has been kept under control, the more variable the stock may be if that control is injudicious. A short examination of the general principles of breeding will throw a good deal of light on these variations. The original principle is that "like begets like."

The wild rabbits of a certain district will be found all alike in color, size and general appearance. In different districts we find rabbits of different type, although they may be descended from the same original stock. This brings us to a further principle that "the circumstances of life modify type." Where circumstances are favorable we have the large, well-developed type; where unfavorable, the type is pinched and dwarfed. Now, in our farm live stock we see how this second principle works in the large breeds of cattle, horses and sheep that are found on the good land, and the small breeds that occur in the mountainous districts. Contrast the Shorthorn cow with the Kerry, the Shire horse with the Connemara pony, the Roscommon sheep with any of the mountain breeds of sheep.

So strong is the circumstance of life that the true type of the mountain breed cannot be reared on the good low-lying land. The first generation of calves from Kerry cows on the rich lowlands will be larger and coarser when full grown than the original Kerry. The first principle of breeding, "like begets like," establishes the importance of pedigree or "blood."

Where animals are all of one strain of blood from time immemorial, they all settle down to one type. There is no reason why they should vary. The male element and the female element work together to fix the type. When a cross takes place between animals of two different types, whether different strains of the same breed or different breeds, there is a struggle for influence between the different types. As a result, the progeny may show some of the points of each of the parents, or sometimes may resemble one of the parents very closely and show no resemblance to the other. These variations are not arbitrary. Where the male and the female elements are both equally pure-bred, the progeny usually shows a mixture of characteristics. Where one element is pure-bred and the other is cross-bred, the pure-bred type will always predominate in the young. The blood of the pure-bred parent is prepotent over the other parent, because it has a fixed type, whereas the other is a mixture of types without any fixity.

This explains the prejudice of experienced breeders against mongrel sires. They may be fine-looking animals, perfect in every external point, but they have little, if any, prepotency. They may produce strong, healthy stock, but there is no certainty that this produce will not cast back to the inferior strain of the blood. The average run of female live stock through the country is of indefinite breeding, so that there can be no certainty what the produce will be like if they are mated with badly-bred sires. With the same class of stock the pure-bred sire will impress his own good quality on the young.

Among dairy cattle the influence of the pure-bred sire will tell not only in the shape and constitution of the calves, but will also influence the milking capacity of the heifers. This influence will be for good if the sire comes from a line of milking cattle; it will be for bad if he comes from a non-dairy family. A pure-bred bull of beef-producing type will spoil a dairy herd just because of the prepotency which his pure breeding gives him. This is no argument against the use of pure-bred sires in such cases. It only shows the necessity for understanding every aspect of the principle "like produces like."

The same principle holds in the selection of parents of good constitution. Delicate or unsound parents, poor feeders, poor milkers or vicious, bad-tempered animals are apt to produce these qualities in their progeny.

The farmer who keeps before his mind the principle "like produces like," and who remembers that it is applicable in a full sense only to animals of pure blood, has made one step in the direction of making his stock more profitable. If he breeds for milk he will find out the best of his cows by keeping a record of their produce, and will mate them with a pure-bred bull of a good dairy strain. This is important, for in the same breed of cattle there is much variation in dairy capacity. If he breeds for beef he will take those heifers which show the earliest maturity and quickest fattening qualities and will mate them with a bull of an early-maturing beef type. It is all a matter of selection.

No farmer need have unprofitable live stock if he would make a point of selling the bad ones and breeding only from the good. W. R. Gilbert.

Care of the Sow and Pigs

It is usual for the writer on growing hogs to spend considerable space cautioning against allowing the brood-sow to get too fat before farrowing. However, there is not so much of this as a few years ago. Of course, the sow should not be too fat at farrowing-time, but with plenty of exercise and a well-balanced ration fed in moderation she is not likely to get too fat.

I prefer that the sow be in good flesh. She needs a reserve to draw upon, in order that she may nourish her young properly. I keep a record of dates that the sows are bred, and by reference to a gestation table I readily find the date that the pigs are likely to appear. The sow is put in a lot with a good, substantial hog-house about seven by eight feet in dimensions a few days before she is due to farrow. She is fed a moderate ration until the pigs are farrowed, then she is provided with plenty of water and but little, if any, food for the first two days. After this the feed is gradually increased until she is on full ration. One of the greatest troubles with which I have to contend is to keep from feeding her too much while the pigs are young. If the sow is overfed, the pigs take the scour and some may die. If the pigs get the scour, I reduce the sow's ration and put fifteen to twenty drops of laudanum in her feed for two or three feeds. If laudanum is not at hand, spirits of turpentine given in moderate doses to the sow will soon stop the scour. Powdered charcoal is also a good remedy for scour in pigs.

The proper nutritive ration for a sow and pigs is about one to five, and middlings, oil-meal, tankage and corn or corn-meal are all good rations. I usually feed the pigs some shelled corn in winter time as soon as they will eat. A separate pen and trough is provided for the pigs, with a place large enough for them to creep into their trough, where they can eat by themselves. Thus they are not disturbed by a ravenous mother, who is liable to knock them about in her efforts to get all the food. The pigs will soon learn their trough and will be on hand at feeding-time, especially if their feed is mixed with skim-milk. They soon learn that their trough contains the best feed, and will eat and grow rapidly.

A. J. Legg.

Buy a Freight-Paid BUGGY $51.95

A rig laid-down at **YOUR** railroad station. You know the exact cost—no figuring—no guessing—easy to compare prices with your home dealer—no chance for argument. The buying simplified and with it **Ward Quality.**

Genuine hickory ¾-inch wheels. Long-distance axles. Oil-tempered, Elliptic springs. Steel Bailey loop. Full under-circle anti-rattling fifth wheel. Double-braced, full ironed hickory reaches. 24-inch hardwood frame body. Triple-braced, solid panel seat back. Auto high seat sides. Special "Ward" seat ironing. Leather quarter top. Heavy rubber side curtains. Solid board boot. Steel frame leather dash. Double-braced hickory shafts. Body painted black, all hand work. Gear Brewster green, red or blue, all hand work. Auto cloth upholstering. Furnished complete with carpet, storm apron, side curtains, anti-rattlers. **Warranty Against Defects** and a **Guarantee of Satisfaction**, at the prices named below. **Delivered at your railroad Station.** Order No. J 111—Illinois, Indiana, Michigan and Ohio **51.95**

Connecticut, Delaware, Iowa, Kentucky, Massachusetts, Maine, Maryland, New York, New Hampshire, New Jersey, R. Island, Tenn., Virginia, W. Virginia and Vermont. **54.15**

Missouri, Pennsylvania and Wisconsin $53.00

Is there any good reason why one or more middlemen should come between the manufacturer of vehicles and the user? The actual value of a buggy whether it is made to our factory or any factory **anywhere** is the manufacturer's cost. Anything over that is too much except a reasonable and fair profit to the factory. Is not that so? **OUR factory is exclusively for users and the only one in the United States where the entire output is shipped direct.** We are saving our customers from 25 to 40 per cent on every vehicle purchased.

We want you to know the real facts about our rigs. We want to send you free, a copy of our large, new, **SPECIAL VEHICLE CATALOGUE** just off the press, containing the most open, frank, down-under-the-paint description of vehicle work ever put out by a vehicle manufacturer and the prices are the lowest ever known on first-class work.

Our methods are fully explained—our Warranty against defects—our absolute Guarantee of Satisfaction. 300,000 copies ready for distribution. Write today, sure. You cannot afford to be without it. No trouble to answer questions.

Delivered to your station in Indiana, Illinois, Michigan and Ohio.

Write for Prices to Your Station

Montgomery Ward & Co., Michigan Avenue, Madison and Washington Streets **Chicago**

Live Stock and Dairy

Rearing a Foal

THE mare that is on the point of foaling should be given a roomy box-stall that is warm but well ventilated, and plenty of bedding in the form of good, clean straw. Thus provided for, it is advisable to leave the course of events to Nature, being always ready to assist, but doing so only when absolutely necessary. Unnecessary interference at this juncture often results in more harm than good.

Usually the navel cord is naturally severed in the act of foaling; otherwise, artificial means should be resorted to at once. About an inch from the belly, tie around it a string that has been well soaked in carbolized oil, and having taken similar precautions with the hands and knife, the navel cord may be cut through below the string. The navel must then be well dressed with carbolized oil or some other strong antiseptic, after which it may be left to the mother's attentions.

After foaling has taken place, the mistake is frequently made in assuming that all danger is past and that the mare and colt will be quite capable of looking after themselves. In consequence, many colts are lost annually—a loss that might easily have been prevented had the owners exercised a little judgment or possessed some knowledge of their requirements. One of the most common ailments of newly-born foals is diarrhea. There are numerous causes, the young animals being very susceptible to the action of irritants of any kind to the intestines. The careless or ignorant administration of drastic purgatives to the nursing-mare is one of the most prolific of these. For instance, aloes when given as a dose in such cases appears to have an affinity for the lacteal apparatus, and is largely excreted by these glands, as is evidenced by the odor that can be detected in the milk a few hours afterward. This by no means deprives the drug of its purgative properties, and a foal in partaking of milk thus contaminated is very liable to suffer from diarrhea.

Again, it frequently occurs when a mare has been fed largely on a food of a very laxative nature. When out on pasture she should be given a fair proportion of dry feed to supplement the grass and to counteract any tendency in that direction. Crushed oats, bran and hay-chaff will make a good ration that will keep her in good condition and exercise a beneficial influence on the health of the foal.

Another common cause of diarrhea is allowing the foal to partake freely of milk from the mare when she is in a heated condition, especially when she has been hard at work and the colt confined in the stable, and hence is hungry after a long fast. In such cases some of the milk should be extracted from the glands by hand and the mare allowed to stand for a few minutes and cool off before the colt is given a chance to suck.

The object, in treating diarrhea in young animals, should be to induce healthy evacuation of the bowels by mild remedies rather than by powerful astringents. As previously mentioned, the mare's milk may be rendered less laxative by giving dry feed in preference to grass or mashes. If the colt suffers considerable distress and strains often, three or four drops of laudanum may be given by the mouth in a little of the mother's milk every three or four hours until a change is seen. If due to an irritant, a couple of teaspoonfuls of pure Italian castor-oil will remove the trouble and usually produce a healthy condition of the bowels.

On the other hand, constipation is another direct cause of much fatality among foals. Ordinarily, any attempt to assist Nature is uncalled for, as in most cases the first milk, or colostrum, has a sufficiently laxative action. When the colt is born, its rectum contains a quantity of dark-colored waxy matter, which has accumulated during the colt's existence in the womb. It sometimes happens that without mechanical assistance it is unable to expel these hard feces, owing to the fact that the mare has been fed on dry feed up to the time of foaling. Thus the milk is only slightly purgative, making it necessary to resort to other means. An injection of a pint of warm water should be given by means of a syringe, and repeated frequently until the desired effect is produced.

When four weeks old, the foal should begin to eat other food than its mother's milk. This should consist of some dainty that he cannot easily gulp down, but must learn to grind or chew, for in so doing he will develop more power day by day to digest the kind of food he is destined to live upon—bran, oatmeal, chaff and cut grass. It is at this time that the work of the salivary glands begins. Large glands under the ears, the jaw and the tongue pour into the mouth fluid containing various salts and a ferment which acts upon the food.

If the food is of such a nature that it can be easily swallowed without being first rolled about in the mouth with the tongue, and thereby saturating it, there is likely to be an attack of indigestion, flatulence or scour. The scour is Nature's effort to clean out the unsuitable food, in the hope of getting something better, or of so altering the gastric and peptic secretions as to be able to deal with the unsuitable food.

To encourage the eating of solid foods, I have found it a good plan to moisten a little bran with milk or sweetened water. A double handful of grain prepared in this way will make a good ration for a foal three times a day during the first month it is put on feed. At the end of the first month the ration should be increased one half, and at the end of the second month doubled, which quantity may be continued as about the proper ration until weaning-time.

J. HUGH MCKENNEY.

Peas for Swine-Feeding

THE value of peas as food for swine is not understood in many sections of this country where the crop can be grown with reasonable success. Along with ground oats or bran they furnish an excellent food for brood-sows nursing their young. When thus fed they should be ground and soaked. To brood-sows that are pregnant, whether on pasture in summer or being fed roots freely in winter, they may furnish the only supplemental grain food needed, and like corn, they may be fed to them without being ground. Similarly, they may be fed alone or with corn to growing swine on pasture.

Pigs may be fattened nicely on peas alone, fed dry and unground, or soaked from twelve to twenty-four hours. They may also be made to furnish any part of the grain ration desired, and answer particularly well for being fed with corn. Both may be fed unground. When fed along with rye or barley, the mixture should be ground and soaked. Some experiments conducted have shown that peas make greater relative increase than corn when used in fattening swine.

Peas make an excellent quality of pork. The meat made from them has a larger proportion of lean in it, and it is well flavored. When the bacon idea grows—and it is growing in this country—more attention will be given to the growing of peas as food for swine.

WM. H. UNDERWOOD.

Breeding Draft-Horses

WISE selection of breeding-stock is a matter of very great importance in breeding draft-horses. It must be remembered that the draft-horse with good bone, heavy weight and proper conformation cannot be produced from undersized, inferior and unsound breeding-stock.

First of all, a brood-mare should be perfectly sound and free from all hereditary blemishes. A sound mare with good bone and wide draft type, even though she may not be very large, if mated to the right kind of a stallion may produce drafters of a high order.

The stallion is of even greater importance than the mare. On account of there being so many mares that are somewhat undersized, it is especially important that the stallion be large and heavy-boned. There never was a time when a little-boned, undersized draft-stallion was as poor an investment as now. The big, strong-boned, shapely fellows are the ones that will pay in the long run. Size does not mean weight alone. Too many buyers are deceived by mere weight. Weight is necessary, but it is not the only essential. A draft-horse at maturity, in fairly good condition, ought to weigh from eighteen hundred pounds to a ton.

If a horse of this weight is of good disposition, of proper conformation, is sound in body and limbs, with heavy bone, legs set squarely under him, with feet of sufficient size and quality, possessing at the same time that style and action so frequently seen in the highest type of draft-horse nowadays, he ought to make an ideal draft sire. The value of such a horse for breeding purposes can hardly be estimated. The breeding of draft-horses, when carried on with good judgment, will always be a source of profit to those engaged in the business.

W. H. U.

Your Best Guide to Buying A Cream Separator is Your Knowledge of Your Needs

Frictionless Empire

Empire Disc

OTHER manufacturers have but *one* style to offer you. Don't be talked into buying any *one hobby*. It may not fit your ideas, your needs, your purse.

Come to headquarters where the different standard styles are made and where each style is made better than anywhere else. And we manufacture a full range of sizes in each style, giving you *double the choice that others offer*.

ALL EMPIRES Are Backed by a Guarantee as Good As A Government Bond

Because all are *first grade* machines. They differ in style but not in quality. They differ in price because one style or model, costs less to make than the other.

When a man claims everything for one model, it is because he has no other—he *must* sell you that or none. We make different styles because we have the necessary patents and facilities and the necessary "know-how." Therefore, we *can* and *do* give the unbiased truth about each style, we can afford to give *facts* instead of claims, for we don't care which we sell—suit yourself in *design* and separating method—in *capacity* and *price*.

No matter how few or how many cows you milk, one of the Empires will just meet your needs as to capacity. And any Empire you choose will do the work year after year paying for itself over and over again. Remember that, when considering the so-called "bargain price" of the "little while" separator.

DAIRY BOOK FREE

Write today for the Empire book, the fairest, most impartial cream separator book ever published. As it describes different kinds without prejudice, it will enable you to select the style that will make the most money for you. And our prices and Guaranty will interest you.

Address

Empire Cream Separator Co.
CHICAGO, ILL.
Factory, Bloomfield, N. J.

A 30 Days Bargain on O. I. C. Spring Pigs
Don't miss it. Address all inquiry to M. L. BOWERSOX O. I. C. CO., Bradford, Ohio, Darke Co., R. R. 4, Box 9.

NEWTON'S Heave, Cough, Distemper and Indigestion Cure. A Veterinary Remedy for Wind, Throat and Stomach troubles. $1.00 per can, of dealers, or express prepaid. Send for booklet. The Newton Remedy Co. Toledo, Ohio.

$29.50 Buys the Best

Improved Illinois Low Down Cream Separator
direct from the maker to you. We are the only western factory selling direct to the consumer. We ship on 30 days free trial. Write for free catalogue.
American Hdw. Mfg. Co., Dept. 172, Ottawa, Ill.

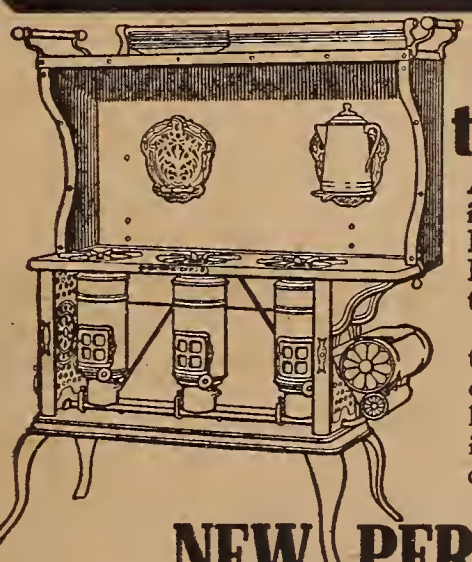
LAMENESS from a Bone Spavin, Ring Bone, Splint, Curb, Side Bone or similar trouble can be stopped with

ABSORBINE

Full directions in pamphlet with each bottle. $2.00 a bottle at dealers or delivered. Horse Book 9 D free.
ABSORBINE, JR., for mankind, $1. a bottle, removes Painful Swellings, Enlarged Glands, Goitre, Wens, Bruises, Varicose Veins, Varicosities, Old Sores, Allays Pain.
W. F. YOUNG, P. D. F., 23 Temple St., Springfield, Mass.

Only $33.50 AND UP Galloway

"BATH IN OIL"
High Grade Separator—Direct
Save $25 to $50 direct at my factory price—freight prepaid. Get the only Separator that runs in "Bath of Oil," like a $5,000 automobile. This alone is worth $50 extra, but costs you nothing extra. Take
90 Days' Farm Test—Freight Prepaid
Why pay $85 to $110 to dealers or agents who cannot sell you a separator equal to the Galloway—closest skimmer—easiest run—easiest cleaned—10-yr. guarantee. Send for BOOK FREE
WM. CALLOWAY CO.
743 Galloway Sta., Waterloo, Ia.



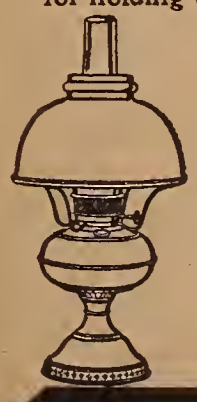
Don't Heat the Kitchen

All the necessary family cooking may be done as well on a New Perfection Wick Blue Flame Oil Cook-Stove as on the best coal or wood range.

By using the "New Perfection" Oil Stove, the annoyance of an overheated and stuffy kitchen is entirely avoided, even in midsummer. The scientific construction of the

NEW PERFECTION
Wick Blue Flame Oil Cook-Stove

ensures quick work and a cool kitchen. The "New Perfection" has a substantial CABINET TOP for warming plates and keeping food hot after it is cooked. Also drop shelves on which to set small cooking utensils—every convenience, even to bars for holding towels.



Made in three sizes. Can be had either with or without Cabinet Top. If not at your dealer's, write our nearest agency.

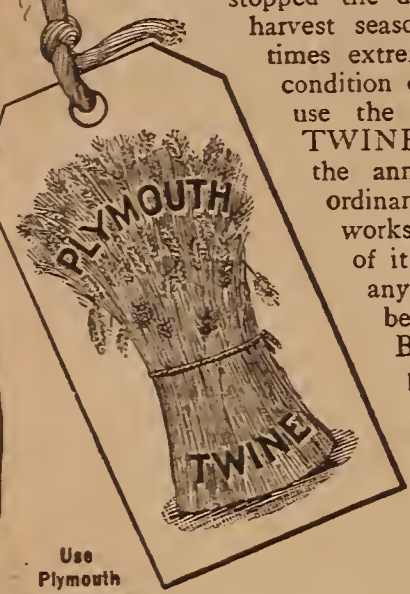
The **Rayo Lamp** is substantially made of brass, finely nickeled and very handsome. Gives a powerful light and burns for hours with one filling. Portable, safe, convenient—just what every home needs.
If not with your dealer, write our nearest agency.

STANDARD OIL COMPANY
(Incorporated)

Plymouth Binder Twine

SAVES TIME AND GRAIN

Twine is a small item, but good twine saves a lot of expense in harvest time. Every time your machine is stopped the delay costs you money. Time in harvest season is always valuable, and sometimes extremely precious on account of the condition of weather or grain. Be sure you use the *best* twine,—PLYMOUTH TWINE. Then you will be safe from the annoyances, delays, expenses, which ordinary twine causes. Plymouth Twine works perfectly in every machine. More of it is made and used every year than any other kind, because it is known to be the best and has been for years. Binds more sheaves with less expense, no knots, no breaks, and is guaranteed full length and extra strength. Get Plymouth Twine from the local dealer. Look for the wheat-sheaf tag.



Use Plymouth Rope. It has the same high quality as our twine.

PLYMOUTH CORDAGE COMPANY

Largest Rope Makers in the world—Oldest in America

PLYMOUTH, MASS.

A Western Electric Rural Telephone

Will Help You Save Your Sick Horse

It will be your errand boy in time of need.

In cases of emergency you can't afford to have the party you want, say, "I can't understand, speak louder." Our telephones are used to transact the important business of this country and are reliable at all times.

The installation of a telephone may save valuable stock or a human life, and it will cost you and your neighbors less than 20 bushels of wheat each to have a complete, dependable telephone system

We have an experienced and trained staff of telephone engineers at each branch house, who will give you **advice free.**

Get in touch with us. Our Free Bulletin No. 50 on "How to Build Rural Telephone Lines," describes the system so clearly that a boy can install and operate it. Write us a letter or postal, or put your name and address in the margin of this advertisement, cut it out and send it to our nearest office. Our FREE BULLETINS will be sent immediately

WESTERN ELECTRIC COMPANY

Eastern New York, Philadelphia, Boston, Pittsburg, Atlanta
Central Chicago, Indianapolis, Cincinnati, Minneapolis
The world's oldest and largest telephone manufacturer; there are over 4,000,000 Western Electric Telephones in use in the United States to-day.
Rural Telephones a specialty
Western Saint Louis, Kansas City, Denver, Dallas, Omaha
Pacific San Francisco, Los Angeles, Seattle, Salt Lake City
Northern Electric and Manufacturing Co., Ltd., Montreal and Winnipeg

Time tells the tale!

Measure the cost of ready roofing by what it will do all the way through.

Genasco Ready Roofing

costs a little more in the beginning than ordinary roofing because it is made of genuine Trinidad Lake asphalt; but that gives it life to resist sun, air, heat, cold, rain, and fire. You are sure Genasco will last—you know what it's made of; and you know it is cheapest in the end.

Insist on Genasco—the roofing with a thirty-two-million-dollar guarantee. Gives absolute protection to every building on the farm. Mineral and smooth surface. Look for the trade-mark on every roll. Write for Good Roof Guide Book and samples.

THE BARBER ASPHALT PAVING COMPANY

Largest producers of asphalt and largest manufacturers of ready roofing in the world.

PHILADELPHIA

New York San Francisco Chicago

Review of the Farm Press

What Others Are Saying About Important Farm Matters

Care of the Incubator

Again the time of the year is at hand when all who raise chickens either for profit or pleasure are confronted with the question, "Shall I use an incubator or the hen for hatching purposes?" To those who raise chickens and have never used an incubator, I would advise them to buy a machine, especially to raise early chicks; and whoever buys an incubator should not fail to buy a brooder.

In an incubator we have a machine that is to do the work of the hen, which is a living being; and with the proper care and attention the incubator will do the work of a hen. The advantages gained by the use of the incubator over the hen are: The incubator is ready to be set at any time, and no broken eggs to watch out for; it is also next to impossible to find hens that will sit early, and every one knows that chickens hatched in February and March bring the best prices. Another advantage of an incubator over the hen is that the hen is very liable to break an egg or two while sitting, especially if the eggs are thin-shelled and the hen is heavy, and broken eggs will spoil the whole hatch unless the eggs are cleaned.

Locating the Incubator

There are two styles of incubators to select from—the hot-air and the hot-water machine—and each style has its friends. I will leave the choice of style and make of machine to the purchaser. The first question that comes up after having bought a machine is where to set it. If a well-ventilated cellar is available, I will say set it in the cellar, as the temperature is more even there than in any room. If no cellar is available, then a room in the house will do, or some outbuilding. The main point to consider is the temperature of the place. The more even the temperature, the easier it is to take care of the machine. If the machine is to be set in the cellar, the cellar must be well ventilated, as the eggs need pure, fresh air during the period of incubation. After having decided where to set the machine, it is important to have it setting level, and most manufacturers furnish a level for that purpose. After having the machine level, it is ready to heat up.

Here a few words about the care of the lamp are not amiss, because upon the care and efficiency of the lamp depends the success of the hatch. Be sure to get the best of oil obtainable, as the best is none too good. And right here I will say that whenever an incubator catches fire, it is traceable to the oil. The lamp should be filled and cleaned every morning and evening. It should never be turned so high that it smokes, because if the lamp smokes, there will be trouble; besides, a smoking lamp does not give out the heat that one does that does not smoke. The danger of a lamp that smokes is that the heating system will be clogged up with soot, which is liable to cause the lamp to explode. When the machine has been heated to the proper temperature it is best to let the machine run at least twenty-four hours before placing the eggs therein, so as to be sure that the regulator works perfectly.

Some Practical Advice

It is best to have the eggs fresh, although eggs that have been saved two or three weeks do very well if they have been turned every day while being saved; but the fresher the eggs, the better the hatch. Another important question is the temperature. After trying different temperatures, I find the following to give the best results: The first week I run the machine at one hundred and one; the second week at one hundred and two, and the last week at one hundred and three. A machine run at the foregoing temperatures brings the chicks out on the twenty-first day, and the chicks are stronger than when the machine is run at one hundred and three the first half of the hatch and one hundred and four the last half, which brings the chicks out on the twentieth day.

Beginning with the third day, the eggs should be turned and aired twice each day. The length of time the eggs should be aired depends on the weather. In warm, damp weather the eggs should be aired longer than in cold weather. I have found the following plan practical: When I have finished turning the eggs, I place the thermometer on the eggs, and when the eggs have cooled to eighty-five degrees I replace them in the machine. There is very little danger in airing the eggs too much, especially in damp weather. Some people advocate testing the eggs twice during the hatch, but that is not necessary and saves work. The best is to test the eggs on the fourteenth day, when all infertile eggs and those with the embryo chick dead can be removed.

The question of moisture must not be forgotten. I test my machine for moisture on the tenth day by immersing a blotter in water and placing it in the machine under the egg-tray. I moisten the blotter whenever it is dry. I have found that by using a wet blotter I have better results than if I use a pan of water in the machine. After the eighteenth day the eggs should not be turned, and when the chicks begin to pip, the egg-tray should be pushed as far back in the machine as possible and the machine closed and not opened while the chicks are hatching. After the chicks are out of the shell they will work toward the front of the machine and drop into the nursery below, from which they should be removed to a brooder, which should have a temperature of ninety-five degrees under the hover.—R. T. Schiller in The Farmer's Guide.

What Science and Hard Facts Teach as to the Use of Phosphates

The bank must receive deposits as well as honor checks and drafts; the merchant must purchase stock as well as sell goods; and likewise, if we are to remove continually plant-food from the soil in large crops, we must give back to the soil with intelligence based at least upon the mathematical facts.

This is truly the age of science, but science means knowledge; it does not mean theory or hypothesis. One dollar taken from one hundred dollars leaves not one hundred dollars, but only ninety-nine dollars. This is a scientific fact which no theory or hypothesis can nullify. Likewise when a crop removes twenty pounds of phosphorus from the soil it leaves that soil twenty pounds poorer in phosphorus than before the crop was grown. The rotation of crops or the application of salt or some other stimulant may liberate another twenty pounds of phosphorus from the soil and thus enable us to grow another crop the next year, and possibly this may be repeated for several or many years, but meanwhile the total supply of phosphorus in the soil is growing smaller and smaller year by year, until ultimately neither crop rotation nor soil stimulants can liberate sufficient phosphorus from the remaining meager supply to meet the needs of profitable crops.

The Safe-and-Sane Method

It is certainly safe teaching and safe practice to return to the soil as much or more than we remove of such plant-food elements as are contained in the soil in limited amounts when measured by the actual requirements of large crops during one lifetime.

The average prairie soil of more than twenty counties in southern Illinois contains such a limited supply of phosphorus that sixty such crops as we raise on our best treated land in the corn belt would require every pound of phosphorus contained in a twelve-inch stratum of the southern Illinois soil; while two centuries of such crops, if they could be grown, would completely exhaust the soil of its phosphorus content to a depth of forty inches.

These are the oldest prairie soils in the state, both agriculturally and geologically. They are also the poorest prairie soils in the state in the total supply of every valuable plant-food element. In harmony with universal experience, these soils do not improve, but continually deteriorate with time and use where no adequate return of plant-food is made. These soils are not renewed by deposits from overflow or by the removal of the depleted surface by erosion, and without the positive addition of deficient plant-food the future condition of these soils must be the same as the present condition of much of the level upland plains of populous China, where now exist soil areas hundreds of square miles in extent that are absolutely depopulated, the restoration of which is called "The Problem of China."

Permanent agriculture is the only structure upon which the future prosperity of the American nation can be secured, and the absolutely essential foundation of permanent agriculture is the fertility of the soil.—Dr. Cyril G. Hopkins, University of Illinois.

Farmers' Institute Features

Items of Interest From Meetings in Illinois

During the year of Illinois farmers' institutes closing with the state meeting at Rockford, February 23d-25th, institutes were held in one hundred and sixty-one places, and in every county except one; eight counties in the nineteenth congressional district held institutes at twenty-two towns; Edgar County held four one-day meetings previous to the regular county institute; twenty-six counties held more than one institute. University people have made three hundred and thirty-four visits to institutes.

Farmers' institutes with superior programs were held at each of the five state normal schools, bringing three thousand teachers into touch with some of the strongest men from the agricultural college and experiment station. Each of these schools teaches agriculture and has an experiment field.

The supervisors of forty counties have aided the local institutes. Effingham County gave one hundred dollars in prizes to boys for growing corn, and secured fifty-nine contestants, all present at the institute; Cumberland offered fifteen dollars to each township for sending boys to the Illinois two weeks' course at Urbana; Henry gives the Geneseo Young Men's Agricultural Club the use of twenty acres of land on the county farm, with seed, fertilizers and labor, for four years, to carry out experiments under university oversight; DeKalb will hold a week's short course in corn-judging, milk-testing and stock-judging next winter at the normal school.

At Rockford state meeting an excellent program was carried out for three days, the afternoon attendance exceeding twelve hundred. Resolutions were passed asking for a state plant to prepare and distribute hog-cholera immunizing serum free; in favor of enacting a tuberculosis law requiring the test and a certificate of health for cattle brought into the state, and providing for voluntary testing within the state; and condemning the theories of the United States Bureau of Soils—that practically all soils contain sufficient plant-food for good crop yields, and that this supply will be indefinitely maintained—as told in United States Bulletin No. 22, as untrue, misleading to farmers and detrimental to agriculture. Following are a few items gleaned from the discussions.

Small Dairy With Big Profits

Charles Foss is a Stevenson County dairyman who has welcomed coöperation with the Illinois Experiment Station, has weighed the milk and tested each cow of his herd for five years, and has solicited and acted upon the advice of the experiment-station men who visited his farm, putting in a silo, feeding a balanced ration, growing alfalfa, getting a better sire for the herd, and raising the heifer calves from the best cows.

He began with cows that returned but little above the cost of their feed. The first year of the test the cows averaged two hundred and twenty-four pounds of butter-fat; three of the poorest were sold. Second year, two hundred and sixty pounds; two more cows sold, one good cow bought, three heifers added to the herd. Third year, three hundred and seven pounds of fat. Fourth year, three hundred and twenty-four pounds. Fifth year, three hundred and seven pounds. This reduction was due to the death of one of the best cows, the failure of another to freshen, and a much less flow from a third that had been milked too long before freshening; ten cows of the herd made a substantial increase.

The feed of these cows is one pound of oil-meal and nine pounds of a mixture of equal parts bran, gluten feed, corn-and-cob meal and ground barley (twelve pounds of mixture to cows producing ten pounds of fat each week), thirty to thirty-five pounds of silage, eight pounds of mixed hay and about five pounds of corn-stover. Cost of feed is seventeen dollars and fifty cents a week and the twelve cows returned thirty-six dollars and twenty-five cents' worth of butter-fat and six dollars' worth of skim-milk each week—two dollars and forty-five cents for every dollar's worth of feed consumed.

Effective Work Against Insects

State Entomologist S. A. Forbes, following an Australian method, had successfully poisoned army-worms and cutworms in a southern Illinois meadow of forty acres, using six pounds of Paris green to one hundred pounds of clean bran wet with a third of a bucket of slightly salted water. This mixture was shoveled over and over, to mix it thoroughly, and thirty-three pounds to the acre sown broadcast by hand, and about half as much the second day. The result was the destruction of great numbers of worms, and a normal crop of hay in the poisoned field, while all other hay in the vicinity was damaged and in many cases totally destroyed by the worms. The treatment cost forty-seven cents an acre. Ten to fifteen pounds to the acre of this mixture might well be tried on young corn whenever these worms appear.

In the entomologist's work for several years against the corn-root aphis, he has found one thing always beneficial—the deep plowing and repeated deep stirring of the land previous to planting, if the ground had been in corn the preceding year and heavily infested by ants, and he has great reason to believe that simple rotation of an infested corn-field to oats or wheat will be profitable. Doctor Forbes invites extensive coöperation with farmers in several kinds of tests.

Poultry Specialist Talks

J. G. Halpin, Michigan Agricultural College: We should take eggs from the hen that was a winter layer and set those eggs if we want to produce hens that will lay in the winter. In February mark the hens that have proved winter layers.

I have had good success with making the top half of the window of muslin. This gives the advantage of both air and light, the great evils in most poultry-houses being draft, damp and sudden changes.

It is a working hen that is a happy hen and a profitable one. Put in a lot of litter on the floor, throw the grain on the litter, and let the hens work it out. Feed at noon a mash, say of corn-meal, beef scraps, etc. If the mash is fed in the morning, the hens will sit on the roost until you feed them; but if there is no mash, and some grain is left in the straw, they will get down early to scratch for the grain. If the mash is fed in the morning, the hens are satisfied and not inclined to exercise as they ought.

I give the hens green food by supplying moistened clover chaff or alfalfa, cabbage, turnips, etc. Three of our great poultry foods are corn, wheat and alfalfa, with skim-milk. There is much in breeding for egg-production. Two pens of Leghorns were kept side by side and given exactly the same food and treatment, and the pen of selected layers produced six times as many eggs as the other.

ARTHUR J. BILL.

Careful experiments made in the reddish prairie lands of Alabama show that the use of cotton-seed meal and nitrate of soda, or the use of acid phosphate alone, produces profitable results. *

Freight Prepaid On Breese Bros. Rubber Roofing

DON'T spend a dollar for roofing until you have seen and tested the old, reliable **Breese Bros.** guaranteed waterproof, fire-resisting, durable **Rubber Roofing.** Made by our own special process, of long-fibre wool felt, saturated in asphalt. Heavily coated on **both sides.**

Free Cement and Special Roofing Nails inclosed in each roll. Hammer lays it. Use on ALL Buildings

Send for Free Samples and Booklet

Get these samples of 1-ply, 2-ply and 3-ply roofing. Put them to every test you can think of and prove to your own satisfaction that **Breese Bros. Rubber Roofing** is the highest quality roofing on the market. We give the

Longest Guarantee

Send for samples or order now on our strong guarantee of satisfaction or money back. We pay freight to all points east of the western boundary line of Minnesota, Iowa, Missouri, and north of south line of Tennessee. Don't delay ordering; these special prices may not be offered to you again. Take advantage of them and write now, today.

Lowest Factory Prices

Freight Prepaid on 100 lbs. or more

35-lb. Roll—108 Sq. Ft.—1-Ply **$1.35**
45-lb. Roll—108 Sq. Ft.—2-Ply **1.85**
55-lb. Roll—108 Sq. Ft.—3-Ply **2.25**

Order today, or write for Samples and Booklet

THE BREESE BROS. CO., Roofing Dept. 24, Cincinnati, Ohio

Don't Judge a Roofing By Its Looks

On the surface, most ready roofings look the same.

But the weather finds the hidden weakness.

The weather finds the vegetable fibers in the fabric and rots them.

The weather finds the volatile oils which are concealed below the surface. The sun draws these oils, in globules, to the top of the roofing, where they evaporate in the air.

Where there was a globule of air, there remains a hole. And behind each hole is a tiny channel which lets the weather and water into the very heart of the roofing.

When the sun and the wind and weather have sought out the hidden weaknesses, the roofing is porous, instead of solid; watersoaked, instead of waterproof.

You can't tell by looks, which roofing will last twenty years, and which will go to pieces in a single summer.

Seventeen Years of Service

But you *can* do this: You *can* tell the original Ruberoid roofing—the only roofing which *has* lasted seventeen years—from the 300 substitutes which have proven their unworthiness.

Ruberoid was the first ready roofing. Its basis is the best wool felt impregnated with Ruberoid gum.

It is this wonderful flexible gum which no other maker can duplicate.

It is this gum which gives Ruberoid all the flexibility of rubber without containing an iota of it. It is this gum which withstands wind, weather, sun, fire, acid, gases and fumes, where all other compounds fail.

It is this gum, in the Ruberine cement which accompanies each roll of Ruberoid roofing, which makes ours practically a *one-piece* roofing — sealed against leaks — sealed against the weather.

Ruberoid comes plain and in colors. The attractive Red, Brown and Green Ruberoid are fine enough for the costliest home. And the color feature is exclusive—protected by U. S. and foreign patents.

In the past twenty years we have had experience not only with all ready roofings, but with other roofings—shingles, tar, tin, iron and other roofings.

We Test All Roofings

Each roofing we have exposed to the weather test, on our roof garden at Bound Brook, N. J.

The result of these twenty years of tests we have written into a book which will be gladly sent you free.

This book is a gold mine of roofing information, telling about the advantages and disadvantages of each roofing for each purpose. To secure a copy, address Dept. 21 B, The Standard Paint Company, 100 William Street, New York.

RUBEROID

(TRADEMARK REGISTERED)

Be sure to look for this registered trademark which is stamped every four feet on the *under* side of all genuine Ruberoid. This is your protection against substitutes which many dealers brazenly sell as Ruberoid. Ruberoid is usually sold by but one dealer in a town. We will tell you the name of your Ruberoid dealer when you send for our free book.

THE STANDARD PAINT COMPANY, Bound Brook, N. J.

New York, Chicago, Kansas City, Boston, Philadelphia, Memphis, Atlanta, Denver, San Francisco, Montreal, London, Paris, Hamburg

THE WELD THAT HELD

This is the only welded fence made. Therefore, it is the strongest fence, the most rigid, durable, proven thoroughly satisfactory fence ever made. No clamps, wraps, twists or ties—just line and stay wires electrically welded.

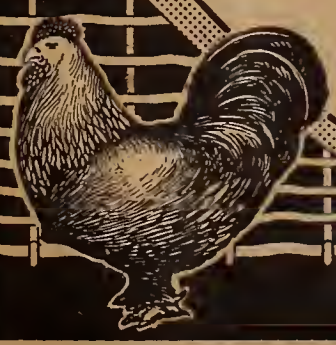
Pittsburgh Perfect Welded Fence

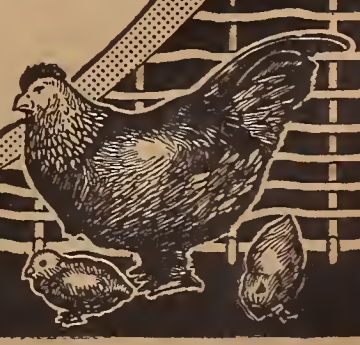
One Solid Piece of Steel Throughout.

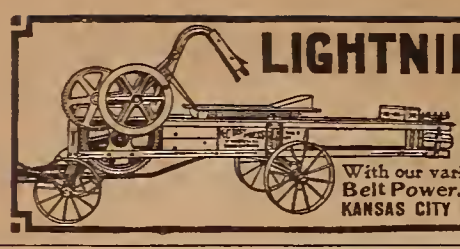
Perfectly adapted for every fence use—for front yard or garden, for stock or for chicks. A bull can't break through, a chick can't squeeze through. Self-adapting to all uneven ground; no top or bottom boards needed. Adapted to all temperature changes. Best steel. heavily galvanized. Positive guarantee. "PITTSBURGH PERFECT" Fences are made in 73 different styles for all purposes.

Your dealer sells it, or write for free catalog.

PITTSBURGH STEEL CO.,
PITTSBURGH, PA.







LIGHTNING HAY PRESSES

For 25 years the Reliable Balers.
Simple, Free from Breakage, Greatest Capacity and Best Work—Strong and Durable.
Consider these Facts for a Profitable Investment.
With our various styles can meet your requirements. **Horse & Belt Power. Self Feed Attachments.** Write for our Catalog.
KANSAS CITY HAY PRESS CO., 124 Mill St., Kansas City, Mo.

The Most Sacred Spot

in any community is the last resting place of loved ones, and if only as a mark of respect it should be fittingly kept and made proof against desecration.

CYCLONE Cemetery Fence and Gates

are designed to harmonize with and beautify the old burying grounds. They last for years, are stock proof and much cheaper than wooden fences in the long run. Write for our fine, free illustrated catalogue.
CYCLONE FENCE CO., Dept 109, Waukegan, Illinois.

Your Dealer's Endorsement

is as good on roofing as on a check.

Why is your dealer doing a prosperous business? Because he has convinced several hundred neighbors that they may safely rely on his honesty and experience in matters of merchandise. His reputation has grown slowly like a lawyer's—and for the same reason—he has always made good.

That is why we value the hearty endorsement of thousands of dealers in all parts of the world—in your town. These dealers know that Rex Flintkote Roofing is the best and safest protection you can lay on your buildings—from rain, wind, snow or fire. They will tell you so—ask your dealer.

Here is what some of the prominent dealers testify about

REX FLINTKOTE ROOFING

THE LOWE BROTHERS PAINT STORE.
Dayton, Ohio, February 15, 1909.
Gentlemen: When we decided to add prepared roofing to our line, the opportunity presented itself to acquire the agency of J. A. & W. Bird & Company's Rex Flintkote Roofing. We clinched the proposition as soon as presented, knowing this line, through our previous experience in the sale of prepared roofing, to be the best on the market.
Yours respectfully,
THE LOWE BROTHERS PAINT STORE COMPANY
Rudolph Roemhildt, Treasurer.

L. Bridenthal

L. BRIDENTHAL & CO.
Wymore, Neb., Feb. 9, '09
Gentlemen: We recommend Rex Flintkote to the public in general, and also your method of doing business and protecting those who buy your roofing, which is first-class in every respect and gives entire satisfaction.
Yours truly,
L. BRIDENTHAL & Co.

D.F.O'Brien

D. F. O'BRIEN LUMBER CO.
Winona, Minn., Feb. 8, '09
Gentlemen: We took the Rex Flintkote agency here because your roofing had been so highly recommended to us. We believe it is the best on the market. We used to handle other brands, but none ever gave the satisfaction that Rex Flintkote gives.
D. F. O'BRIEN & Co.

Robert Hunter

HUNTER HARDWARE CO.
Rockford, Ill., Dec. 28, '08
Sirs: Up to four years ago, when we took your agency, we dodged inquiries for prepared roofing. Now we invite them, for we know the sale of one roll of Rex Flintkote will sell more to the same man when he needs roofing.
Very truly,
HUNTER HARDWARE CO.

Edward Weitz

CENTURY LUMBER CO.
Des Moines, Iowa, Sept. 30, '08
Gentlemen: We chose Rex Flintkote as our line of roofing and congratulate ourselves on our selection. Sales during the past six years have increased 30 to 50 per cent. each year and we have never had a complaint.
Very respectfully yours,
CENTURY LUMBER CO.
Edward Weitz, Sec'y

WRITE FOR FREE BOOK AND SAMPLES

and the name of our nearest dealer. The book gives interesting and valuable information about roofs and roofing that every house owner should know. The samples are for you to test. They will speak for themselves. *Write to-day.*

J. A. & W. BIRD & CO., 75 India St., Boston, Mass., U. S. A.

It is to your advantage to mention Farm and Fireside in writing to advertisers. Farm and Fireside folks get the very best attention.

Farm Notes

Practical Points From Recent Meetings of Fruit-Growers

Wm. C. Parry, president of the Western New York Horticultural Society, said in his address that fruit-growers are satisfied with moderate achievements. But no other calling offers greater attractions. "What possession," he asked, "can be of greater value, and give more satisfaction than a well-kept orchard producing nice fruit? Orchards bring cheer, health and comfort to their possessors." And no doubt he is right. There is more in the orchard than the mere money you can get out of it. And if the fruits are honestly sorted and packed, it is clean money, too—money without a taint. It is a pity, however, that so many farmers still disregard or forget this one important feature and try to secure good money for poor fruits. It must certainly spoil all the fun and cheer and comfort there is in fruit-growing. A cheat must feel cheap.

Mr. Barry is also right when he calls attention to the standard and current literature as one of the great helps to success in the business. "Every farmer," he says, "should possess a library, subscribe for agricultural papers, and get all the station bulletins within his reach." It should also be said that the stations are not only willing, but anxious, to help the farmers of their state in any particular trouble they may have in crop production or animal husbandry, and that farmers might be more ready to go to the stations with all their difficulties of this kind. Usually the station experts answer all inquiries promptly, willingly and to the best of their ability. It is the stations' business to place needed information within the farmer's reach. But the farmer should be willing to reach for that knowledge and do some thinking for himself. The stations' business is not to do the thinking for the farmer or arrange his private business matters for him.

Western Competition Arouses Eastern Producers

Western competition is beginning to worry the Eastern fruit-grower. This feeling of fear or uneasiness is a dominant feature running through all the discussions at recent meetings of the Eastern men in the business. And well it may. These beautiful apples from the Far West which reflect in the brilliancy of coloring the intensity of the blue sky under which they were grown, and the perfection and uniformity of the specimens which reflect the skill and honesty of the Western producer and packer, are an irresistible temptation to the consumer in the Eastern and the world's markets. Appearance goes a great ways. These beautiful Western fruit products have also seemed to be a temptation to some young men of the East, and got them into the notion of taking the agricultural course at Cornell University, and then going to Oregon to engage in fruit-growing. Professor Beach, formerly of the New York State Station at Geneva, now of the Iowa Agricultural College, and Mr. Geo. T. Powell expressed themselves as opposed to such a move. They believe that western New York, and possibly other Eastern points, offer a wide field for this enterprise. Western growers have paid particular attention to outside appearance, so as to tempt the eye. Eastern-grown fruits are of better quality, juicier and more pleasing to the taste. There is no question but that the general level of the appearance of Eastern apples can be raised quite a bit, thus enabling the Eastern grower to better meet the competition of the Western apples—in outward appearance. But the Eastern fruit-grower must make the most of the point of inherent quality of his products. On the other hand, even the Western men "see the point," and are working on the problem of producing apples of higher quality. Many of them begin to plant better varieties, such as Jonathan, etc., rather than so much Ben Davis. It looks as if the competition between East and West will continue to be keen, and it is sure that the Eastern fruit-grower will have to copy the business methods of his Western brother, or will stand little show except perhaps in out-of-the-way places and Pennsylvania mining towns, where lower grades of fruit will sell.

Sod Mulch Versus Cultivation

The question "Which is the better or more profitable system of apple management, sod mulch or cultivation?" is still a little in dispute. There are certain puzzling or conflicting features in it.

Professor Frazer, at the Rochester meeting, showed that "a smaller Baldwin of high color sells quicker than a larger one without color." An apple, in the first place, must please the eye. It is not size that sells an apple. As other experts also tried to prove, an abnormally large apple is not particularly desirable, and an apple of common or typical size should be given the preference even on the exhibition table.

On the other hand, Professor Hedrick maintains, and I believe with good reason, that apples grown on cultivated trees grow larger and are juicier and of higher flavor than apples grown on trees in sod. But even the most superficial comparison of plates of apples, especially Baldwins, Spies and other red sorts, as we found them in the exhibit of the New York State Experiment Station at Medina and Rochester, shows the higher coloring of the sod-grown fruit. Any one can readily see that a much nicer looking box of apples can be made with sod-grown Baldwins, Spies or Spitz than with fruit from cultivated orchards. If color is the only or main point of consideration on the part of the buyer, then the sod-mulch plan would have a decided advantage over the tillage plan. The time is coming when the point of quality will enter more largely into the question of making sales of fruit, but there seems still plenty of room for missionary efforts on the part of the producers of high-quality fruits in the direction of educating the fruit-consuming public.

Gano and Ben Davis, under the name of "Kansas Kings," as they are now being offered in some English markets, will be found just as chippy and punky as under their true name. And the English consumer is not likely to be long deceived. But, poor Kansas!

The Seckel still stands at the head of the pear for quality. Mr. Barry said that every one ought to have a tree or two of this pear for his own use. "How can any one deny himself the pleasure of eating all the Seckels he wants? It can be stored outdoors and kept for a long time. Sheldon is another good pear that every home grower should have.

T. Greiner.

Sayings for Farmers

It is always right and always in fashion to do good.

Faults are things you can see in others, but not in yourself.

Peace and poverty in the home are better than discord and wealth.

Whoever has no respect for his friends and neighbors has none for himself.

Though honey is a healthful sweet, yet it will not sweeten your disposition.

The man who succeeds is the one who does things, instead of talking about them.

In raising crops, a thorough preparation of the soil is more than half the battle.

The hired man who works more for your interests than his own is the one to keep.

Better aim a little low and hit something than to aim too high and not hit anything.

M. L. Piper.

LARGEST VEHICLE FACTORY IN THE WORLD
Studebaker
THE STUDEBAKER PLANT COVERS 101 ACRES

Means Genuine Economy

The first cost of a vehicle or a set of harness is one thing—the yearly cost is another. You want the farm wagon or buggy or carriage that will last the longest, run the easiest, require fewest repairs and, while costing no more in the beginning, will ***cost a great deal less in the end.*** That's the only ***genuine economy.*** The Studebaker Bros. Mfg. Co. have built up the largest vehicle and harness business in the world ***—solely by saving money*** for its customers. If you are looking for a ***real*** bargain—one that will give you ***years*** of satisfaction—

See the Studebaker Dealer and let him show you why the ***Studebaker lasts*** so long, gives such good service, runs so easily and costs so little in the end. You can't afford to run risks—investigate the ***Studebaker*** line and see for yourself. ***If you don't know a Studebaker Dealer, we'll be glad to send you his name.***

Studebaker Bros. Mfg. Co.
South Bend, Indiana.

Farm Notes

Away on Ahead

FAITH that is not strong enough to go afoot, but must be carried in an automobile, never gets very far from home.

"Just look at that calf's udder, will you! If there isn't an udder for you, I don't know where you would find one! See where it comes to now. What will it be when she gets to be a cow?"

There was much more of the same bright, spirited talk down in the stable. The young farmer who was showing off his heifer had all the fire and enthusiasm of a man exhibiting some wonderful machine he had just finished making and for which he prophesied a great future. His eyes shone like stars. His voice was full of the ring of certainty as he stooped down to call attention to the good marks of his heifer.

And yet that was only a calf. Many months lay between the pretty little thing and the great achievements the young man predicted for her. But the grand thing about it was that he had the faith which spans all the days and the months and the years and sees what lies wrapped up in Time's mysterious heart. That faith was willing to do all the work which must be done to bring about the consummation of the desired result. It could go afoot through all the hard places till the end came and success was attained.

One of the greatest failings with the young men of our times is that they are not satisfied to take the steps which lie along the road to success. They want to be whirled through all the hindrances in a swift-running automobile, and even then perhaps they want to lie on a pillow or in the arms of some strong man. That quiet, persistent plodding which alone is the warrant of success is a rare thing among the young men of our times.

Of course, these are rapid times. We light the fire this morning with last night's paper. The man that is not up and a-doing will get left. And yet we have not come to the time when we can with one swoop wipe out all the honest, legitimate steps that must be taken by the man who would build up a truly successful business. We are not content to show off the calf; we must have the cow or nothing right now, this very day!

So we see young men hurrying away from the farms to town, for they have an idea that there they will somehow or other get together more quickly the money which seems such an indispensable factor in success. The country has been stripped of young men by this very ambition to get there now, with the disappointing result that a great many never do get there at all. There is this encouraging thing about it, however, that now a splendid army of young men is marching back home to the old farm with new and commendable determination to begin over again and take the steps which bring conquest.

All farm operations must be done for days away on ahead. No man can take a piece of land and get a fortune, or even a living, out of it all at once. It takes time to get stock about one. Crops must be sowed early and months must lie between seed-time and harvest. A good herd of cows cannot be built up in a single year. Meantime there is a lot of hard work to be done. But there is all the way along a generous harvest of pleasure in seeing things grow and in making them grow.

True, one cannot live entirely on happiness. It takes pork and beans to feed the fires of the body. All the time the bills keep ticking away. The millman needs his pay for feed. The storekeeper insists that his accounts shall be settled once a month. What is the man who is new on the farm to do? How can he make ends meet until the farm brings in a living?

Every pioneer of this country had these same questions to meet. His needs were not quite so many as are those of the man of to-day, but he had far less to meet them with. If the will be present, the thing can be done. It will require economy and the practice of some self-denial, but that never yet killed a man or woman. In fact, if I had to make a choice between the young man who has been carried on the shoulders of some one else all his life, and then came into possession of a grand fortune, and one who had been brought up to know the worth of every cent, I would not be long in filing my decision.

Now for the case in hand. Early in the game get some of the best hens you can. They will begin business at once. The eggs they lay will pay the grocery bills and some others. And they will lay the foundation for more money to-morrow. Hens are the mainstay of more young farmers to-day than any other one thing I know of.

And then it does not take long for the cows to begin bringing in something. Put the milk in the creamery, and in six weeks they will bring you back a check. Or if you make the butter at home in less time than that, there will be something to bring home beside the empty jar.

Then, an acre or two of early potatoes will sell for something, and that something will come handy. There may be market for a few cords of wood. If pressed, one may do a few days' work now and then for some one else. These things help out.

Does this seem like pretty practical advice? That is what the most of young farmers need. Dreams are all right, but the present moment is urgent.

All the while take pains to look away on ahead. See the coming cow in the heifer calf. Plan big things on the thing which seems small to-day. That makes life really happy. If every breath we drew we were to say, "There may never be another; I'll live just for what I can get out of this," there would be little joy in living. We are to believe that better things than any we have ever known are locked up in the future. Give us the man who has the prophet's vision. He is the man who is doing the best farming in all the world to-day. He is the hope of the country, and the time will come when we will all rise up and call him blessed.

EDGAR L. VINCENT.

Agricultural News-Notes

"Glucose," says Doctor Wiley, the pure-food expert, "should be entirely eliminated from table syrups, and the pure products from the maple grove, the sorghum and cane fields used."

The masses of the people in this country and in Europe are beginning to realize the fact that the apple orchards of America, Tasmania and Australia are not likely to oversupply the ever-increasing market for good apples.

The Kansas Turkey Red fall wheat, which in the Northwest is said to ripen nearly three weeks sooner than the Bluestem Spring, is now rapidly superseding the latter in the Walla Walla district in the state of Washington.

The expansion of the meat-inspection service is shown by the fact that in 1891 it was done in but nine establishments, whereas in 1908 there were seven hundred and eighty-seven engaged in this now indispensable work.

The general government cannot expend its funds more judiciously than in preventing forest-fires on the watersheds from which flow the waters which are to be utilized for the production of electrical power and irrigating purposes.

There has been a gratifying increase in the number of sheep sheared in 1908 over those sheared in 1907 in the three following states: Ohio, three hundred and fifty thousand; Michigan, three hundred thousand; New York, seventy thousand.

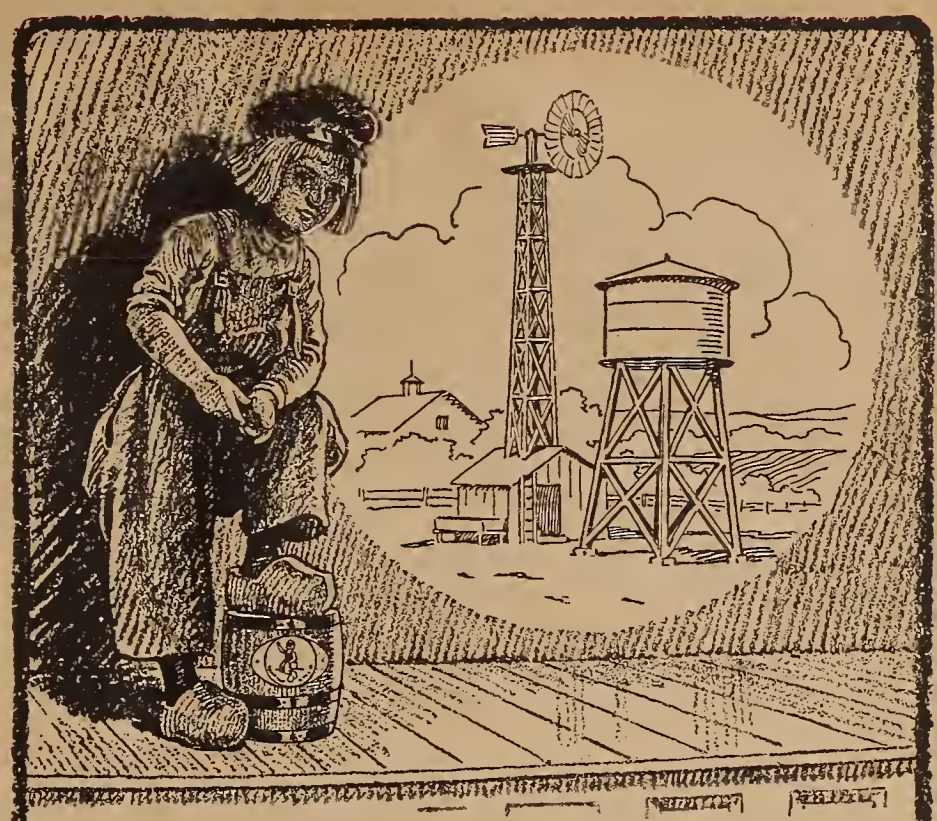
Mr. J. L. Watkins, a cotton expert formerly with the United States Department of Agriculture, says, "We are now consuming at home five million bales of cotton, and the more we consume, the less will we be controlled by Liverpool prices."

It is of interest to note that the Iowa State Agricultural College at Ames took the first and second premiums for the best general exhibit of cattle, sheep and swine at the International Live-Stock Exposition which was held at Chicago in December.

British India is now the greatest rice-producing country in the world. A variety suited for upland culture, known as Aus paddy, is to be tested in the United States by the California Land Improvement Company. The Department of Agriculture promoted its introduction.

The Japanese Department of Agriculture has issued a list of the names of birds that are known to be useful in destroying noxious insects, and have prohibited their destruction. The exports of bird skins from Japan to France in 1907 amounted to over fifty thousand dollars.

Of the seven hundred forest-fires in the state of New York in 1908, two hundred and seventy-two originated accidentally, one hundred and three by hunters, seventy-two by campers, thirty-four by smokers, eighteen by fishermen, twelve by berry-pickers, while twenty-four were of incendiary origin. Prompt action by the proper authorities cannot be too soon taken to prevent these fires. *



Paint Talks, No. 6—Painting Metal Work

There are many places on the farm where iron, steel, tin and galvanized iron are used. These metals require different paint from wood, brick or concrete.

Tin roofs, water-spouts, the steel skeletons of wind-mills and water tanks, metal parts of wagons, implements and machinery—all these and similar things should be painted with National Lead Co.'s *Red Lead* paint—one gallon of linseed oil (one-third being boiled oil) to 28 to 33 pounds of red lead.

After thoroughly coating the metal with red lead, the surface can be brought into harmony with any desired color scheme by finishing with National Lead Co.'s pure white lead (Dutch Boy Painter trade-mark) tinted to the desired shade.

DIRECTIONS FOR USING RED LEAD

Send for Painting Outfit No.47. It contains specifications detailing every step in preparing the surface and painting with red lead, as well as other helpful directions for general painting with white lead. Ask your dealer for our red lead or white lead. If he hasn't them write us.

NATIONAL LEAD COMPANY

An office in each of the following cities:
New York Boston Buffalo Cincinnati Chicago Cleveland
St. Louis (John T. Lewis & Bros. Co., Philadelphia)
(National Lead & Oil Company, Pittsburg)

CONGO NEVER LEAK ROOFING FREE SAMPLE

A Genuine SURETY BOND GUARANTEE with every roll of Congo

So many guarantees are given nowadays that to a certain extent they have lost their value; but the one which accompanies each roll of Congo is *different* from all others.

It is a genuine Surety Bond backed by the National Surety Co., one of the largest and best known Surety Companies in this country. It protects you absolutely.

It is a distinct, clear-cut guarantee, and any man who desires the best roofing for his money, and wants the same backed by a reputable house as well as by a Surety Bond, can do no better than invest in Congo.

Samples will be sent for the asking, and we know if you test it thoroughly, as a roofing should be tested, there will be no hesitation on your part in securing it quickly.

Further information, samples, etc., on request.

UNITED ROOFING AND M'F'G CO.
Successors to Buchanan Foster Co.
553 WEST END TRUST BLDG., PHILADELPHIA, PA.
CHICAGO SAN FRANCISCO

10 DAYS FREE TRIAL We will ship you a "RANGER" BICYCLE on approval, freight prepaid to any place in the United States *without a cent deposit in advance*, and allow ten days free trial from the day you receive it. If it does not suit you in every way and is not all or more than we claim for it and a better bicycle than you can get anywhere else regardless of price, or if for any reason whatever you do not wish to keep it, ship it back to us at our expense for freight and you will *not be out one cent.*

LOW FACTORY PRICES We sell the highest grade bicycles direct from factory to rider at **lower prices** than any other house. We save you $10 to $25 middlemen's profit on every bicycle—highest grade models with Puncture-Proof tires, Imported Roller chains, pedals, etc., at prices no higher than cheap mail order bicycles; also reliable medium grade models at **unheard of low prices.**

RIDER AGENTS WANTED in each town and district to ride and exhibit a sample 1909 Ranger Bicycle furnished by us. **You will be astonished** at the *wonderfully low prices* and the liberal propositions and special offers we will give on the first 1909 sample going to your town. **Write at once** for our *special offer.*

DO NOT BUY a bicycle or a pair of tires from *anyone* at *any price* until you receive our catalogue and learn our low prices and liberal terms. **BICYCLE DEALERS:** you can sell our bicycles under your own name plate at double our prices. Orders filled the day received.

SECOND HAND BICYCLES—a limited number taken in trade by our Chicago retail stores will be closed out at once, at **$3 to $8 each.** Descriptive bargain list mailed free.

TIRES, COASTER BRAKES, single wheels, inner tubes, lamps, cyclometers, parts, repairs and everything in the bicycle line at **half the usual prices.**

DO NOT WAIT but write today for our *Large Catalog* beautifully illustrated and containing a great fund of interesting matter and useful information. It only costs a postal to get everything. **Write it now.**

MEAD CYCLE COMPANY, Dept. L-83 CHICAGO, ILL.

SUBSCRIPTION PRICE

One Year (24 numbers) . . . . 35 cents
Four Years (96 numbers) $1.00
Canadian Subscriptions . { 1 Year, 60 cents / 4 Years, $2.00

Entered at the Post Office at Springfield, Ohio, as Second-Class Mail Matter.

Subscriptions and all editorial letters should be sent to the offices at Springfield, Ohio, and letters for the Editor should be marked "Editor."

The date on the address label shows the time to which each subscriber has paid.

Subscribers receive this paper twice a month, which is twice as often as most other National farm journals are issued.

Silver, when sent through the mails, should be carefully wrapped in cloth or strong paper, so as not to wear a hole through the envelope.

When renewing your subscription, please say it is a renewal, and if possible send the label from a recent copy. If all our subscribers will do this a great deal of trouble will be avoided.

FARM AND FIRESIDE

PUBLISHED BY
THE CROWELL PUBLISHING COMPANY
SPRINGFIELD, OHIO
Branch Offices: 11 East 24th Street, New York City.
Tribune Building, Chicago, Ill.
Copyright, 1909, by The Crowell Publishing Company

ABOUT ADVERTISING

FARM AND FIRESIDE does not print advertisements generally known as "readers" in its editorial or news columns.

Mention FARM AND FIRESIDE when you write to our advertisers, and we guarantee you fair and square treatment.

Of course we do not undertake to adjust petty differences between subscribers and honest advertisers, but if any advertiser in this paper should defraud a subscriber, we stand ready to make good the loss incurred, provided we are notified within thirty days after the transaction.

FARM AND FIRESIDE is published on the 10th and 25th of each month. Copy for advertisements should be received twenty-five days in advance of publication date. $2.00 per agate line for both editions; $1.00 per agate line for the eastern or western edition singly. Eight words to the line, fourteen lines to the inch. Width of columns 2¼ inches, length of columns two hundred lines. 5% discount for cash with order. Three lines is smallest space accepted.

Letters regarding advertising should be sent to the New York address.

Revision of the Tariff

PROBABLY the history of the country does not present a time when the people were so entirely harmonious in favor of "an honest and thorough revision of the tariff" as they were on the eve of the last presidential election. But day after day, as tariff discussion goes on in Congress, it is becoming more and more apparent that certain vested interests were never so determined to frustrate the will of the people. If there ever was a time when a congressman should hear from his constituents and be under their watchful eyes, it is the present.

In the struggle over the organization of the House and the adoption of new rules, Cannonism was barely scotched. In the Senate the Aldriches remain in control unshorn of their power. Cannonism won with the assistance of oil and beer, and the combination got its reward in the drafting of the Payne Bill, which provides for no increase in the tax on beer, but does contain some rich "jokers" for Standard Oil. Study and discussion of this Payne Bill have disclosed one little "joker" after another. There are the sugar schedule, the tobacco schedule, the oil schedule, the hosiery and underwear schedule, the glove schedule, and other schedules, all fixed up to benefit some privileged interest at the expense of the consumers. Powerful lobbyists are in Washington, consumers are at home. Write to the representatives from your district and to the senators from your state. Let them know that you are alive and kicking. Demand that the pledges be kept for an honest and thorough revision of the tariff. Take courage from what the women have accomplished against the scandalous glove schedule, which represents one of the deals by which a little reactionary oligarchy retained its control over legislation. There are enough progressives now in each branch of Congress to get the original Payne Bill modified in the interests of consumers, if the people will aid them by bringing public opinion to bear on the reactionaries.

Write a few letters. If they are disregarded or thrown into the waste-basket, remember it a few months from now when the next Congress is to be elected.

Faithful to His Trust

SENATOR GUGGENHEIM is very anxious to have a general inquiry into the methods of the Forest Service. He seems absolutely opposed to the pernicious activity not only of the Forest Service, but of the Land Office and the Reclamation Service. Of course his opposition is in the interest of the public weal and the welfare of the people.

Let us see. The Forest Service and the Land Office are trying to have several hundred thousand acres of land, now illegally held by the Smelting Trust, restored to the public domain of the United States.

But how does this affect Senator Guggenheim? To answer this question, we would like to ask whom Senator Guggenheim represents. The people of the United States? No. The people of the state of Colorado? No. What, then? The Smelting Trust, of course. The Guggenheim family absolutely own "and control" the American Smelting Company, an immense trust that owns smelters, mines, milling-plants, railroads, water-rights, timber lands, coal-beds and great areas of mineral lands all over the West. They have vast interests—interests that are antagonistic to the interest of the people who are living in those sections.

* * *

The Smelting Trust needs some one in Congress to protect its interests, and no one can do this as well as a senator. That is the reason why Mr. Guggenheim is a senator. He is there to protect and subserve the interests of the American Smelting Company. And if you will watch his every public act you will see that he brings great ability and energy to the performance of his duty—to his Trust.

Perhaps some time the people of the great state of Colorado will decide that it is of more importance that their interests be protected than that the Smelting Trust be served. When they do, Mr. Guggenheim will not be the senator from Colorado. But until then, Senator Guggenheim will be faithful to his Trust.

Three Points Against Railways

ONE of the most hopeful signs of the times is the way Uncle Abraham's plain people are now studying and understanding questions that have to do with their own welfare. In an agricultural region where the greater part of farm products are shipped away to distant markets, transportation usually looms up as the most important thing to be considered by the producer. Unless rates are fair, his business is oppressed and unprofitable. When the producers find out rates are not fair, they begin to do things.

In a memorable fight for his nomination as a candidate for the United States Senate, Joseph L. Bristow went before the people of Kansas and made transportation the principal issue. In an interesting interview about his successful campaign he says:

> "I made three points against the railways of Kansas specifically, and against the railways of the country generally. First, overcapitalization; second, high rates for transportation, and, third, discrimination. I am not an enemy of property—I have a newspaper and a home. On the contrary, I believe that the owner of railway securities is entitled to all the protection that is given to the owner of a farm, a stock of goods or a manufactory. But I oppose the concentration of property when it is employed by one man or by a group of men to control the politics and commerce of the country.
>
> "The root of our troubles with the railways is overcapitalization. I am sure the Union Pacific Railway—it does business in my state, and I know about it—could be rebuilt for thirty-five thousand dollars a mile, yet it is bonded for sixty thousand dollars, and stock to the par value of ninety-eight thousand dollars has been piled on top of the bonds. The directors having voted a ten-per-cent dividend to the shareholders, the commercial value of the road—that is, the added prices of its bonds and shares in Wall Street—has become two hundred and thirty-five thousand dollars a mile! Can rates for freight on the Union Pacific be just or moderate under the circumstances? Should the consumers and producers of the country be compelled to pay dividends on such an outrageous inflation of capital?"

The striking example illustrates how overcapitalization conceals the real earnings of a railway and is made the basis of excessively high freight-rates. Apparently small, the earnings are really very large. For instance, a four-per-cent return of the two hundred and thirty-five thousand dollars of inflated capital is about twenty-seven per cent on the actual capital of thirty-five thousand dollars a mile. In other words, the Wall Street water of two hundred thousand dollars a mile is an artificial value based solely on extortion due to the railway company's power of compelling producers and consumers to pay the highest freight-rates the traffic will bear.

As a good illustration of the injurious discrimination commonly practised by railways, Senator Bristow gives the following specific case of unfair freight-rates:

> "During my campaign last year I called particular attention to many cases of injurious discrimination. The country around Wichita produces five times more wheat than is grown in the vicinity of Kansas City, but the Kansas City rate to Galveston, the place of export, was sixteen cents a hundrd pounds, as against a rate of twenty-eight and one half cents from Wichita, although the haul from Wichita is two hundred and twenty-five miles shorter, and over the same railroad, bear in mind, than is the haul from Kansas City. It often happened that only thirty or forty men were in my audience, but I gave them concrete facts of the sort I have mentioned, which they took away and spread through their neighborhoods. I argued then, as I argue now, for an accurate and official valuation of the physical property of railroads, not as an absolute basis for freight-rates, but as an illuminating element in determining what charges are equitable to all concerned."

It is the plain presentation of such facts to the people by men who really represent them that is gradually changing the Senate of the United States from an oligarchy dominated by the Aldriches for the benefit of a few vested interests to a real legislative body responsive to the will of the common people.

Back Talk to Lewis

Letters From Readers

EDITOR OF FARM AND FIRESIDE:—

I agree with some of your other readers, in that I wish you would give the space to something else that you are now devoting to setting forth the ideas of Mr. Lewis. For one reason, I think there are plenty of other papers which devote themselves to that subject, without its being given space in our farm paper.

Texas. H. N. WELLES.

EDITOR OF FARM AND FIRESIDE:—

Tell Mr. Lewis to keep up his good fight against worthless cur dogs running at large—against railroad officials carrying undeserving ones on free passes, and then howling that they are losing money carrying passengers at two cents a mile. Nearly one fourth of the traveling public ride on free passes. From a conductor who knows. W. E. HARTLEY.

Indiana.

EDITOR OF FARM AND FIRESIDE:—

Unlike Mr. Mercer and Mr. Wetmore, I say hang onto Comrade Lewis. He puts his lancet right into the sores that corrupt our grand government. It is my idea to treat a sore finger as it should be, lest the entire hand gets contaminated. Would they have you stop your notes on killing out weeds? That's the job Mr. Lewis is at, and he is a good hand at it. Let him continue to handle the work. L. E. PORTERS.

Massachusetts.

EDITOR OF FARM AND FIRESIDE:—

I have been a reader of your paper for some years, and enjoy it very much with one exception. When I come to the page where the thumbs and fingers are extended in one corner of the page, and the globe in the other corner, and the string-pullers at work, with disgust I generally pass it by, for I don't like to think that I am living in the worst country on earth, as your man Lewis pictures it. If you allow socialists to edit your political page, you will soon have your paper in a condition which will be fit only for socialists to read.

Virginia. FRANK O. DELONG.

EDITOR OF FARM AND FIRESIDE:—

I like the FARM AND FIRESIDE very much. I like your new department conducted by Alfred Henry Lewis. I think it is a great idea, and I hope you will not discontinue it. There is a crying need for more papers and magazines in this country that will have courage and honesty enough to print the writings of honest and courageous men. Men who are capable of exposing the corruptions and frands perpetrated upon the American people. Patriotic men and women will help to create a political revolution that will overthrow these aristocrats and make this government what the great Lincoln wished it to be, in fact as well as in name—a government of the people, by the people and for the people. C. P. STILLWELL.

Ohio.

EDITOR OF FARM AND FIRESIDE:—

Alfred H. Lewis' page is the best part of the paper. If all the farmers and working-men in this country possessed a good working knowledge of economics, it would be worth not less than four thousand dollars a year to each and every one of them.

I would, however, make one criticism of the general drift of Alfred's writing. He leans too much toward the antediluvian theory known as "individualism." He seems to imply that all the trouble comes from "bad" men in power. Now all corporations can be greatly affected, for profit or for loss, by laws, ordinances, court decisions, etc. Any wonder that they take an interest in the making and enforcement of the laws? As long as our industries are run for private profit, so long will we have graft and capitalist class-legislation.

The only remedy is for the public to own all the natural resources and big industries of the nation, and operate them at cost, for the benefit of all. "Graft" is but a form of profit, and all profit a graft, since it means the getting of wealth by other means than producing it. C. C. ROBBINS.

Minnesota.

In the Public Eye

By Alfred Henry Lewis

EDITOR'S NOTE—The word "Politics" has become so identified with "Partizanship" that its use in connection with this department of Mr. Alfred Henry Lewis has given some members of the FARM AND FIRESIDE family a wrong idea of the scope of this page. We have therefore adopted the title *"In the Public Eye,"* which seems to fit in with the fearless honesty of the text.

MR. HARRIMAN OF THE RAILROADS has gone the path which leads to health-wreck age. In his going, Mr. Harriman should be worth considering. A study of the gentleman might teach one what to avoid and what to accept. Surnamed Harriman, he was baptized "Edward Henry." Speaking in the business sense, he is a lion of money, more particularly a railroad lion. When he roared among the stocks, there was a stampede of all the creatures of the money jungle, and the stoutest of them made for the deeper Wall Street woods. Harriman expressed the native hauteur of your true lion in his autocratic scorn of others, his selfishness, his silence, which was as the sublimation of studied insolence. Also, did a corporation offend him, he broke its back with a stroke of his paw, and, via the stock ticker, dragged it off to his lair.

* * *

WHO IS HARRIMAN? What have been the antecedents of this lion of money—this devourer of railroads raw? Harriman was born at Hempstead, Long Island, in 1848. He had two sisters, three brothers. His father was an Episcopal clergyman—the Rev. Orlando Harriman.

The latter, at the birth of our Harriman, was rector of St. George's Church in Hempstead; which sanctuary, founded in 1702, is now attended by the Belmonts, the Cuttings, the Havemeyers, and similar gilded vulgarians. The Rev. Orlando's parishioners did not pay him his salary; and, since he and his growing family were not tree-toads, to live on air and scenery, he resigned in 1849. Then he went to Staten Island, and next to Jersey City. For ten years, having no regular pulpit, he preached hither and yon in piece-work fashion for what he could get. I should say it was very little; for the records of St. Paul's Church, West Hoboken, exhibit that the Rev. Orlando became its rector in 1859 at two hundred dollars a year.

* * *

HARRIMAN, OUR MONEY LION, during his sixteen years of boyhood, was never without the grip of poverty at his throat and at his heart. Think of a family of eight on two hundred dollars a year—and cheated out of half of that! And yet such was the babyhood and youth of our Harriman. His parents, too, were proud in a silly way of aristocracy, and each felt called upon to live up to a noble lineage, the nobility whereof, as in all lineages, was three parts imaginary and perhaps one part real.

Let me say at this pinch that a lineage is ever a delicate affair. One should be careful how, in his own case, he goes digging about its roots. As I have pointed out before, it has been the fault of every age that more folk were hanged than crowned, and he who pushes recklessly afield to the discovery of his ancestors will find them, in an argument of chances that are as one thousand are to one, more often mounting a scaffold than a throne.

It is easy to understand how, from the pride of his parents, added to their awful poverty, boy Harriman saw little or less of children of his own age. He had no chums, no friends. He was taught to stay at home, find playmates among his own family, and avoid the neighbors as much as he might. He went to school hardly at all. and what education he acquired he picked up at home. Such an upbringing was bound to leave its marks upon a nature sensitive and high-strung. They who know how men are made may still trace those marks in the secrecy, the furtivity, the cruel, unpitying remorselessness of Harriman's pursuit of money, and his conquest of it by any callous means. He allows no impulse of patriotism, no principle of a money morality to get in his way. Thinking of no one save himself, he has been moved only of a scrupleless selfishness that would shock a shark.

Hold! Let us not overlook Harriman's one act of generosity, an act bred, doubtless, of the bitterness of his own barren boyhood. He has builded a five-story structure, and calls it a "Club House for Boys." It is on New York's East Side, where childhoods as harsh as his own are passed, and cost him two hundred and fifty thousand dollars. He pays the expense of running it, which is twenty thousand dollars a year. That much has our money lion tossed to charity.

* * *

BEYOND WHAT HAS BEEN RELATED, no one knows aught of Harriman before he came to Wall Street. This last befell when he was about eighteen years old, and the argument that led him to this home of the gamblers was never stated. All one can glean is that he worked as a Wall Street clerk until 1870, when he bought himself a seat in the Stock Exchange. Harriman's instincts are predatory, and like all predatory animals, he is congenitally secret and savage. Also, he can see—commercially—in the dark. Thus he was able to discern where advantage lay when Gould and Fisk and their fellows prepared to work their gold corner. With what scanty sums he could rake and scrape together, he followed these eminent freebooters into that rapine. He closed out his slender interests on "Black Friday," as honest names were tumbling and good men going to the wall. To be sure, his share of the pillage was not great; for in those days he was no more than a cub. But it served to buy that seat in the Stock Exchange, which, in the equipment of a broker, has the place of a jimmy in the armament of a burglar.

* * *

NOW, WHEN READY FOR THOSE FORAYS against mankind that were to occupy his life, Harriman bethought him of wedlock. This, of itself, was wise. Harriman married Miss Averill, of Rochester, daughter of a capitalist and a railroad man; and, by way of celebrating his nuptials and to show that bliss had not obscured his vision, he went in promptly with father-in-law Averill on a transaction involving "Rome, Watertown and Ogdensburg" stock, and cleaned up a profit that required six figures in its statement.

During the first twenty-six years of his stock jobberies Harriman confined himself largely to the tape. He was a fish-hawk of speculation, soaring swoopingly above the ticker, striking his prey of profit from day to day. He must have been born for the business; for at scalping in and out he was all but unsurpassed, and made millions at the game.

Also, that Harriman was no one to be caught napping appears when you recall that he went through panic after panic without losing a feather from his financial wings. He made money by them; for he is of those who fatten on the disasters of other men.

During those stock-ticker years Harriman began edging into railroads. He became in 1883 vice-president of the Illinois Central, when Stuyvesant Fish—whom Harriman not long ago threw out—was made president. It was vastly by the favor of Stuyvesant Fish that Harriman rose to power in this road. Which, in view of what later happened, suggests the fable of the farmer and the viper.

In 1896 Harriman began to uncover himself as a railroad force. He called about him a syndicate, whereof he was the autocratic head. For his syndicate he bought ninety-seven per cent of the Alton stock for $39,008,600, borrowing the money from convenient insurance companies with which he was connected—they had no objections—and putting up the stock as security. Then he issued Alton bonds to the humming tune of $40,000,000. These his syndicate carefully bought in at 65, to subsequently sell to those friendly insurance companies at 92—a ripe advance.

As a mere by-blow of trade, Harriman caused the Alton to buy a little jim-crow road, with fifty-eight miles of track, for $3,000,000. This became a basis for a further bond issue of $22,000,000, which the Harriman syndicate took up at 60. Also, he issued additional Alton stock, and managed what gamblers call a "whip saw" of most auriferous sort in golden favor of himself. It is hardly more than a decade since Harriman went gunning in the Alton destinies, and already his personal advantages therefrom touch $55,800,000.

Following up his Alton success, Harriman decided to become an Alexander and conquer a railroad world. And he so sufficiently proceeded as to alarm a whole country. He dominates a score of companies, of which the Union Pacific, Southern Pacific, and Oregon Short Line are specimens. He sways the rod of his dictatorship over sixty-six thousand miles of railroad, having a capitalization of $3,900,000,000—more than a railroad one third of the United States. Then there are Harriman steamship lines, and a huddle of similar trinketry of transportation sort, the mere names whereof would fill a page.

* * *

HOW DID HARRIMAN MANAGE his railroad aggressions? By the simple process of robbing Peter to pay Paul. You should understand that Harriman, for what railroads he becomes interested in, is at once the whole company. There are other officers, other directors, but they are only marionettes whose wires are pulled by Harriman. They must say what he says, do what he does; and if they rebel, he crushes them. He calls this work of bending railroad directorates to his autocratic will, "harmonizing." When the word was repeated to James R. Keene, he laughed. "He doesn't mean harmonizing," said Keene; "he means Harrimanizing." It is more than probable that he did; for with him "harmony" and "Harriman" have ever been synonyms.

Yes, Harriman is always the entire railroad. Being the entire Union Pacific, for example, he proceeded after this manner: As the Union Pacific, he guaranteed his own personal paper for $103,000,000, and with the proceeds bought another road. As the other road, he then guaranteed another block of his personal paper, and bought a third road. And so on, and so on. While working these wonders, and by way of teaching them to keep their distance and not crowd too closely upon his hunting, Harriman sprung upon the New York Central, and took from it, ticker-wise, $14,285,745. Likewise he smote the Atchison for $10,000,000 more.

As a profit justification for those stock issues and bond issues, which his high financial gymnastics made necessary, Harriman put up freight rates and passenger rates on what roads he became possessed of. He had gone thus far, and was preparing to go farther, when Mr. Roosevelt captured him with his Interstate Commerce Commission, and took the training of our money lion in serious White House hand. That training was reasonably severe, while it lasted, and lion Harriman was decisively shortened in his railroad leaps thereby.

* * *

HARRIMAN IS A PAST-MASTER OF THE FURTIVE, and makes a specialty of mystery. No one is to know his politics. He desires no friends; those with whom he acts are but allies. He may be fighting them tomorrow. In his wars he gives no quarter, shows no mercy—the sure mark of the buccaneer. He takes no one into his confidence, and revels in surprise based upon chicane. Above all things, he values stealth, and makes a cult of secrecy.

Much of this is pretense, affectation, vanity. Our great "Captains of Industry" are generally vain. They suffer from what the alienists describe as "exaggerated ego." . . . At the close of a hard-fought day on 'change they drive to their clubs—the Union League, the Knickerbocker, the Union. They walk through the rooms, speaking to no one, nodding to no one, wrapped in that mantle of wordless, sightless abstraction which is the natural garmenture of your truly great.

For all that pretended abstraction, their vanity-bitten ears are on the strain. As they pass, the sibilant whispers go round:

"There's Harriman! That's Morgan! Here comes Schwab!"

These whispers of awe and admiration are to them the veriest incense of the ear. In them they find the cheap echo of their power. Also, it was the conceit thus fostered that taught certain rich blindlings to defy law, scorn control and treat a public with contempt. The public? It has, as I've more than once described it, the quacking, waddling, inane place in their convictions that belongs with a waddling, quacking, inane flock of geese which are to be presently plucked by whatsoever Dutch woman happens to be their owner. They would as soon think of consulting the public as would the Dutch woman of consulting the geese. What rights have either beyond the right of being plucked?

As though to make up for that boyhood narrowed of poverty, and the suffering of it, Harriman denies himself nothing. He has horses, automobiles, yachts. He has his country place in the Ramapo hills, and a stock farm of thirty thousand acres. His town house is at Fifth Avenue and Fifty-fifth Street. In one respect the latter structure is like its master: as you come up Fifth Avenue it presents its shoulder to you, and is careful to have its front door open on the side street.

The Soul of Honour

By Lady Troubridge

Synopsis of Previous Chapters

Marcus Quinten, impecunious and unworthy, but heir to the title and wealth of his cousin, and Jack Taunton, wealthy and honorable, fall in love with Lady Hyacinth Windermere. Her parents favor the former because of his prospects. They know nothing of the latter's immense wealth, and Quinten concealed the fact. The story opens at Ascot on Cup Day. A woman at the gate of the paddock accosts Quinten as her husband. He repulses her, saying that the marriage was false, and leaves her. She faints, and is befriended by Jack Taunton. Taunton learns Honour Read's story, and how she was deserted on the wedding-day, and he urges Quinten to marry her. He refuses point-blank. Taunton is refused admittance to Hyacinth's home, but meets her at the home of her cousin. She loves him, but says she must follow her parents' wishes. Taunton, failing to persuade Honour Read to expose Quinten to Lady Hyacinth, secures a position for her with Quinten's cousin, who is a misogynist, and requires a secretary who will not intrude on him personally, and therefore sends all his instructions by his valet. Honour feels that this cannot continue,and writes a note to Lord Vannister requesting him to give her a short interview, so that she may discuss the work assigned her. The following morning Honour receives a reply from Lord Vannister and goes into the garden to read it. She is angry and indignant at the note, and in her rage sobs out, "I hate him! I hate him!" At that moment she hears a low laugh at her side, and raising her head with an angry jerk, faces the intruder. She is startled to learn that the stranger is Lord Vannister, her employer. She then tells him the sad story of her life. Lord Vannister's sympathy is immediately aroused and he asks Honour if she will still remain as his secretary. In the meantime Marcus Quinten, who is down to his last penny, tries to borrow more money from Jack Taunton. Taunton refuses. A stormy scene ensues, and Quinten, enraged, leaves the room. Since his credit is everywhere exhausted, he is forced to go to Lord Vannister for a settlement, in order that he may marry Lady Hyacinth. Here he meets Honour, whom Lord Vannister introduces as his wife. They both stand dumbfounded, and Lord Vannister, noticing their confusion, leaves them alone. Left alone, Marcus begs Honour to plead with Lord Vannister to make a settlement on Lady Hyacinth. During their conversation Lord Vannister passes by the window and sees Marcus kiss Honour's hand. He becomes jealous and asks Honour if she had met Quinten before, but she denies having known him. However, he agrees to Quinten's marriage with Lady Hyacinth. He and Lady Vannister give a house-party, and invite the Windermeres. Jack Taunton also comes determined to prevent the wedding if he can. In a conversation with Lady Hyacinth she tells Taunton that she loves him and cares nothing for Marcus. Taunton's mind is at once made up, and as soon as he finds Honour alone he tells her that she must reveal to Lord Vannister the truth about Quinten's villainy and deception.

Chapter XVII.—Continued

"Must I do this?" she said at length. "I ask you most solemnly to do it," said the young man, wishing, however, that she would look less sad and less spiritual, for she was making him feel a brute, but his determination never wavered at all.

"I honestly believe," he added, "that perfect openness is your best course with your husband, but it is primarily for my own sake that I ask it."

"You do not know what you ask," she said, "and you do not know what has gone before. Rightly or wrongly I have kept the name of the man who did me this bitter wrong from my husband. I see now that it was foolish, perhaps wicked of me to do so, but I could not ruin Marcus. It would have seemed so malignant of me, as if I were taking advantage of the wonderful turn of fate which has put him in my power. Oh! don't you understand, Mr. Taunton. Can't you realize how I felt it all—"

"I understand," he said, "it was madness to keep it back, but it was a noble madness. Yes, I understand."

"Now," she said, "having done this I saw too late that I was making it necessary to weave a tangled mesh of lies, for to begin with, Guy noticed that we did not meet like strangers. He asked me about it, put the question direct, and I lied, I said we had never met before. Oh! it was terrible, for he did not believe me."

"It was wrong and useless," said Taunton, impatiently. "It was worse than a crime, for it was a blunder of the most desperate kind."

"Yes," she said eagerly, "but you see now I cannot speak, Mr. Taunton; even you cannot understand how impossible it is for me to own to him that I have deceived him, to understand that, you would have to know the secret of his life. Once long ago he loved some one else in the intense worshiping way he loves me, and she told him a thousand times that she loved him, too, and every time it was a lie, for it was only his money, and when a richer man came along she took him and left Guy alone with his miserable broken heart. To this day, Mr. Taunton, he hates the memory of that woman with a fierce, undying hatred, as he will hate me when I tell him."

He heard her hurried and irregular breathing, and he heard also the tortured note in her voice. Stretching out his hand, he took hers.

"Sweet lady," he said gently, "the cases are not the same. She lied through falseness and want of heart, and you in the pity and tenderness of your heart. Vannister will understand the difference. Come, Lady Vannister, be true to your name, and do this thing which is plainly your duty."

Still Honour hesitated, perhaps her woman's wit saw more deeply into the matter than her companion. Perhaps she realized that in Marcus Quinten she had an enemy, all the more deadly because he had once been called her lover.

"I promised," she stammered out.

"You promised because you were rushed into it and taken by surprise," said Taunton inflexibly, and then pitilessly he played his last card.

"Lady Vannister," he said, "under heaven you owe your happiness to me, and in the name of gratitude, I ask you to expose this man, who stands between Hyacinth and me. Will you do it or no?"

A sudden resolve seized her. Yes, she would do it. She would throw herself at the feet of the love which had glorified her life, the love that alone was worth living for, and if needs be dying for, and if love spurned her then she could but die.

She turned to Taunton swiftly. "Tell me what to do," she said hurriedly, and he saw he had conquered.

"See Quinten at once," was the unhesitating reply, "and tell him what you intend to do. It is painful for you, I know, horribly painful, but there is no other way."

"It—it frightens me," said Honour. "You will think me fanciful, I know, for indeed he has reason to hate me. I have never harmed him; but he does. I have seen him looking at me sometimes as if—as if he would like to kill me."

For a moment Jack was silent; he had seen that look, too, in Marcus' eyes.

"Pooh!" he said. "You are safe enough; he dare not attempt to harm you in any way."

Honour bowed her head. Whatever came of it now, she had promised this man, who had helped her in her direst need, to obey.

A quick step crunched the gravel near them, and immediately her thoughts flew to her husband. She recollected with terror that she had been outside nearly a quarter of an hour or more, neglecting her other visitors. She knew Vannister's jealousy, not of her doings, for he trusted her far too well, but of those secrets which she hid from him and confided to others. She started around with words of nervous explanation on her lips to find herself confronted by Marcus.

He came up to them quietly, not speaking till he was close at her side, and then he held out a light wrap which he must have taken from the hall.

"I was afraid you might catch cold," he said, "the air here begins to be chilly."

Not another word did he say, yet no doubt was felt by either of the other two that he had guessed the reason of their tête-à-tête, and had come out here to prevent it.

Honour silently submitted to be enveloped in the light cloak of white which he had brought, and then she found Jack's eyes bent upon her with a command in them. "Here" and "Now," they seemed to say, "delay is dangerous. Seize your chance."

Her voice was faint as she obeyed.

"It is delicious out here," she said, "but I must not keep Mr. Taunton any longer. Will you stay a moment and keep me company?"

He bowed with a sarcastic smile that the darkness hid and Taunton left them quickly before her courage had time to evaporate.

His heart smote him as he increased the distance between them and thought of her alone with the man who hated her with that bitter loathing to which dead love sometimes turns.

The two left together found it difficult to begin. She was silent. So was he. She was standing mute, silent, rigid, with a strange look of fear frozen, as it were, upon her features, only those jewel-like eyes of hers seemed alive and watched him like two anxious sentinels.

"Well," he said lightly, interrupting that deep scrutiny. "I presume from your ladyship's unusual condescension you have something to tell me. If so, I am at your service."

Then she spoke. "Marcus," she said, "plainly you must go. I do not speak in anger. I am forced to speak, but it is as I have said, you cannot stay in my husband's house, and you cannot marry Hyacinth."

"I dare say," he said with a bitter laugh, "and who, pray, is to prevent it now."

"The truth is never impossible," said Honour, although a slight shiver ran through her frame, "and I have only to tell the truth to Guy to alter everything."

"You wretched woman, you would not dare."

Her courage arose as he caught her arm in his iron grip.

"Let me go," she gasped, "nothing you can say will stop me—no, not if you kill me."

He dropped her arm, and his tone altered.

"Vannister will never forgive the deception."

"I know it. I must risk it."

"You are determined?"

"Absolutely."

"Then," he said, "you must grant me one favor; one last wretched kindness. You must give me twenty-four hours grace. Give me just this breathing space, these few hours. Honour, you cannot refuse."

Honour hesitated, and he saw it. "You will," he said. "I knew it. That tender heart of yours cannot be so utterly, so irreparably changed. You have ordained that my life is to be entirely and hideously desolate from henceforth; at all events let me choose the time and manner of my undoing."

It was her nature not to look for the evil in others, but to persuade herself that each fresh exhibition of it was but a chance, an accident. It had taken an act of unparalleled baseness on the part of the man before to make her doubt him and to open her eyes to the depth of his baseness, and even now when nothing but contempt remained, his easy penitence and surface humility won upon her. Should she or should she not agree?

Chapter XVIII.

"There can be no harm in that," she said half doubtfully.

"Then you consent?"

"I do."

"For twenty-four hours you will do nothing, say nothing against me. Swear it, Honour."

"I promise it."

"No, no," he said. "You promised once before, and you altered your mind. Swear it by what you hold most sacred, by your love for your husband."

A quiver of pain passed across her face at the mention of that dear name.

"I swear," she said, "by that crown and center of all my life, to give you the time you ask."

He drew a long, relieved breath and stood aside.

"Twenty-four hours," he thought, "a night and a day," and then a second thought sprang into his brain full-fledged and deliberate.

She must never live to tell him. The time she has given me must be her time limit on this earth.

It came to Honour as she walked toward the house that that strange warping of her judgment which had guided all her actions of late had clouded her mind when she gave Marcus that last solemn promise. Too late she remembered Taunton's words. "Twenty-four hours must not pass before he is exposed," and then again, "every hour which passes until your husband knows is a danger to you." Oh, why had these words not come to her mind before. She was further terrified to notice that the house was in darkness, and that the household seemed to have gone to rest. The whole evening had slipped away in these two vital interviews. What would Guy think of her negligence? She pictured his anger, a thing she had trembled at in fancy, but had never actually seen.

For a moment she thought that the drawing-room window was shut, and that she would have to rouse the house, but on putting her hand to it she found it to be still ajar, and pushing it open stepped inside, meeting the butler, who was crossing the room to shut up.

"I thought your ladyship was upstairs," he said apologetically.

Telling him to wait for Mr. Quinten, she passed him and went upstairs, her heart beating. Under her husband's door she saw a tiny streak of light, and mustering her courage she knocked lightly and timidly on the panel. It was instantly opened by Vannister, who was fully dressed.

He put out his hands and took hers and drew her into the lighted room.

"Honour," he said, and his eyes rested tenderly on her. "You have come at last to tell me all that you are keeping from me." He encircled her with his arms, and bent his face down to the soft masses of her hair. "Speak, my darling," he said eagerly. "My love depends on your confidence, and the world is so empty, so desolate for both of us without love."

She did not answer, and he looked down at her flushing cheeks and at the tears which sparkled like diamonds on her lashes.

"You have a secret," he said. "You cannot deny it, and it is making you wretched. Tell it to me, sweetheart, and let me share it with you."

She moved restlessly.

"I cannot, Guy."

His fond clasp slackened, his black brows drew together.

"You are talking in riddles, child. How do you mean you cannot? Who can compel my wife to keep things from me? Honour, I think I know this thing which is tormenting you."

He had pushed her away from him, and his brow was dark and frowning, and his lips drawn together and savagely bitten. "Yes, I know what it is," he said. "Oh, what a miserable, accursed fool I've been."

"Guy," she said, startled and clinging to his arm. "What do you mean?"

He hardly heard her, he was following out of his own thoughts, putting them into words. "You are a good woman, Honour," he said coldly, "but even you cannot force yourself to love one man when your whole heart and memory are full of some one else," he laughed in a hard, dry, bitter way.

A hot tide of color crimsoned her cheeks. She trembled so that she could hardly stand, but she stretched out her white arms to him despairingly.

"Oh, Guy, I can't understand. What can there be in the world for your wife but you?"

"The memory of the man she loved," he said fiercely, "the man who broke her heart, but could not, it seems, lose her love."

"Guy," she said sobbingly, "there is no one but you. Oh, why won't you

Copyright, 1909, by Edward J. Clode.

believe me? Why do you imagine I do not love you, when I think of nothing, live for nothing but my love for you? If it could help you I would die for it, to prove it to you."

Ah, why could he not believe the sweet lips so near his own, which voiced their devotion in such tender, pathetic appeal? Was he deaf or blind, or insanely exacting to demand more than the torrent of sweet vows she poured at his feet?

Perhaps it was the shadow of the one deception she had practised, for suddenly stopping her with a gesture of command. he said, "Is this true, Honour? Is the memory of this other man nothing to you?"

"Less than the dust on your shoes," she said passionately, as she looked up at him, her eyes filled with tears.

"Then drop this mystery once for all, and tell me the fellow's name."

It was the question that had she obeyed Taunton she might now have answered fully and freely, but her wretched promise chained her, and she stood trembling and dismayed.

"I can't."

"Why not?"

"I have promised."

"That does not count," he said firmly. "Your first, your only duty is to me. Whatsoever you have been led to promise I absolve you from it. Come, speak."

"I cannot." Her voice was dull, and sounded to him sullen from the suppressed pain in it.

His anger flamed up in spite of his attempt to master it. He turned almost furiously upon her.

"I command you to be open and frank with me. Do not trifle with me, as you value my affection for you."

He had broken away from her hold, while she, pale now and very still, found nothing to say.

"Will you speak, Honour?"

"In two days from now I will," she said at length.

The mystery at which these words hinted only enraged him the more. He took her hand and led her to the door.

"When you are willing to speak," he said, "I may not be willing to hear. Goodnight—"

She turned away from the door, conscious that the blow had fallen. Such a little while the dream had lasted, and already she was awake in a cold gray world where they were two and not one. She threw herself on the bed sobbing, and lay so, fully dressed until the morning.

Next day the sun shone down in clear level beams and the air was sultry with almost a midsummer heat. Lord Vannister met his guests with an unmoved and imperturbable face. He explained that he thought it might amuse them to see the last bit of harvesting in a wheat-field near by.

Every one agreed, for in the subtle constraint which hung over the whole party any diversion was welcomed.

At eleven o'clock they set out, driving and walking to the wheat-field about two miles distant. Honour drove, and it was not until later that Taunton managed to get a word with her.

At length he drew her away, for the real fun was going to begin, and on either side stood men waiting around the patch where the frightened rabbits clustered almost as if they realized that one bound would lead them to destruction.

"Stand beside me, or a little behind," said Jack, as finally shooed out by the sticks of the laborers they bounded out.

Honour felt nervous at the shots.

"Am I safe?" she said, and then could have bitten out her tongue for the foolish question which luckily had not been heard by either of the country-bred Miss Merrincourts.

"Safe as in a house," said Jack, as turning he let a hare escape, for they, unlike the rabbits, were to be spared till another day. "They can all see you here well enough; that's Quinten opposite. By the way," he added, his curiosity mastering him, "did you speak to him last night?"

"Yes, and he asked for twenty-four hours' grace," she replied.

"You refused, I hope."

"No, I agreed."

A silence fell.

"I am sorry," he said bitterly, "I don't like his look at all to-day. What does he want the time for if not to make up some plot against you? He's got something up his sleeve."

She was about to reply, when suddenly she heard Jack's voice ring out loud and angrily.

"Hello," he shouted. "Look out there, you Quinten. Why in the name of thunder are you pointing your gun here? Don't you know better than that?"

"Mind your own business," answered Quinten with an oath. "Do you think I need to be taught to shoot by a —— Colonial? I was only waiting."

"Well, hold your gun properly or leave the field," shouted back Taunton.

Honour was astounded, the dazzle of the sun in her eyes had prevented her seeing Quinten's actions, and she began to reprove her friend.

"Don't, Mr. Taunton, don't," she said. "Why are you so angry? I don't understand."

"No! And a good thing you don't," muttered Taunton in his teeth.

"Is he not a good shot?"

"Good? Of course, he's good as a rule, but he knows as well as I do that he's no business to be pointing his gun over here."

"You should not have insulted him," said Honour, hurt and puzzled at this unnecessary violence.

"I shall insult him a little more if he does not look out," said Taunton, still fuming. "Look here, Lady Vannister, oblige me by going over there by your husband, or, better still, go home. This doesn't amuse you, I can see."

His arbitrary tone piqued Honour, who was agitated by his whole manner. Her nerve had returned and with it a spice of obstinacy.

"What nonsense," she said. "I'm all right. Really, Mr. Taunton, I don't recognize you to-day. I have always looked upon you as the bravest man of my acquaintance."

Before he could reply, Quinten fired again, and her words ended in a low shriek.

Jack laid his gun on the ground and bounded toward her. "I knew it, I knew it," he said. "The scoundrel. Good heavens, Honour, are you hurt."

She tried to smile with white lips, but the effort ended in a groan, and she fell helplessly across his arm.

He shouted loudly for help, and a scene of the wildest confusion ensued. Quinten reached the pair first, bounding across the intervening wheat just as Vannister started running toward them from the further end of the great field.

"Good heavens, how could it have happened," said Marcus, his face was livid with terror, his hands were trembling.

"How could it not have happened? You infernal hound," said Taunton, "you aimed dead at her. I saw you, I swear it."

"I did nothing of the kind. I would sooner have killed myself. How dare you insult me?"

Their voices rang out hoarse with deadliest passion, when Vannister reached the scene and snatched his wife from Taunton.

"Here, you fellows, stop," he said, "not another word. Taunton, what are you saying? Silence, both of you, I will hear you afterward."

He bore his wife in his arms to the carriage, running over the ground, and out-distancing every one else. As he carried her her eyes opened to his intense and indescribable joy, but her first words chilled him again.

"Don't," she said feebly, "don't tell Guy, don't tell my husband."

"No, no," he said. "Do not trouble. Everything is all right."

But his heart sank. Living or dead her thought of him held only fear and dislike.

They drove straight to the local doctor's, who declared that a day or two's rest and care would put her right. The skin in fact had been merely grazed, and her ladyship, he averred, was suffering more from the shock than anything else.

This was so far satisfactory, that Honour safely at home and in bed he turned his attention to the disgraceful fracas in the wheat-field, and going to the library he sent for Marcus, determined if Honour would not speak, to put a few bold questions to the other side.

Marcus entered, white and shaken, so shaken and unnerved that Vannister's generous heart, relieved of acute fears on his wife's behalf, was inclined to treat the affair more lightly.

"She's much better," he said at once. "Don't look so wretched; of course, I know it was an accident. How could it be anything else?"

"How, indeed," replied Quinten, below his breath. "But thank you for the assurance. You heard," he added, "what that fellow Taunton accused me of out there?"

"I heard something, and to tell you the truth that disgraceful row between you is what I am least inclined to forgive. You must both have been mad to go on like a couple of low bruisers before my tenants. It strikes me," he added, looking keenly at the young man's face, "that a scene like this is hardly to be accounted for by what took place to-day. It seems to me more as if it were some former grudge which you two fellows have against each other which came to a head to-day."

He stared hard at Marcus, who put up his hand almost feebly and wiped the great beads of sweat which lined his forehead below the dark hair.

"I might go farther," went on Vannister, still eyeing him keenly, "and tell you that I am certain that this is the case, and furthermore I am convinced that my wife is in some sense the cause of it. Come, Marcus, be frank. I give you here and now the chance of wholly retrieving your position with me. More than this, of bettering it. I will give you the example of frankness by telling you plainly that when you and she first met here I realized that you met with a shock, that, in short, you were no strangers to each other. I have never actually taxed Honour with this, but I have been quite aware since our marriage that some matter to do with the past has been making her wretched. I am confident that whatever it is she is absolutely without reproach, but I do not choose that you and she, aye, and Taunton, too, shall have knowledge of a thing which is hidden from me. You hate each other so deeply that your rivalry for Hyacinth Windermere does not account for it. There is some other reason, and I wish to know it. Had you ever seen Lady Vannister before?" he asked looking downward.

"Yes."

The strong man listening to him trembled, it seemed as if the very walls of the temple of life were tumbling about his ears. She had lied to him, his love, his wife, it was terrible beyond words, but he suffered nothing of his emotion to appear.

"You had known her well?"

"Yes, sir."

"You had in fact known that once in all innocence she was deceived by a blackguard, who entrapped her into a false marriage by an almost unbelievable villainy, making the innocent girl believe herself his legal wife."

"I know this," said Marcus, his soul turning sick at the concentrated rage and passion of the strong man's voice, a passion which in an instant if he were not careful might be turned against himself. "I knew this, Vannister," he said again.

"You knew also, then," said Vannister, "that this scoundrel was prevented by a merciful providence from consummating his villainy. That he left Honour at his rooms within half an hour of the make-believe ceremony and that, thank God, he then deserted her."

"All this, I know," said Marcus, hoarsely. Grim, indeed, did the story sound in those stern lips as grim as death, as terrible, as slowly moving as fate.

"In fact you know everything. Then tell me the name of that devil in man's form."

Marcus gathered himself together as the tiger for his fatal spring.

"The name of that scoundrel is JACK TAUNTON."

Chapter XIX.

Vannister looked at him for a space of time, trying to understand, but all the time his mind was adjusting itself to this new idea. He was finding it more and more a reality, a thing that was. He bent his head for a moment, while his eyes were dim with sudden rushing tears, tears which for a kingdom he would not have had Marcus see; yet they would have their way. Then he lifted his head.

"You are certain of this?"

"I am certain," said Marcus firmly, but his eyes avoided Vannister's and roamed restlessly around the room.

Vannister held out his hand.

"Well, I am grateful to you, my boy, for your frankness, and so you shall find me in time to come."

That noble, care-lined countenance would have touched a heart less engrossed with its own passions than that of the man beside him; but Quinten had no thought but of his own predicament. His reasoning powers were dulled by the acuteness of his agitation. They had never governed him, and now were helpless to guide and to warn; only his unchecked passion ruled him, those wild, selfish impulses to which he had always been a slave.

"What shall you do?" he asked.

Vannister looked up with a smile so grim that it was almost a snarl, the lips drawn back over the white even teeth.

"Do," he said with a kind of savage exultation. "What is left me to do, boy, my duty."

"And that is?"

"To turn this wretch out of my house, the house in which he never should have dared to show his face."

"Shall you do it now?"

"Immediately. I shall go to him and say what is to be said between us. Do not concern yourself about it. You have done your part, and done it well, too. I shall not forget."

He got up, and his look, though kind, was a dismissal. Marcus left the room with his brain on fire.

Left alone, Vannister sought the man whom he now hated with a terrible frenzy of just hatred. It seemed to him that the moments were hours until he could stand face to face with the one who had slowly, cruelly and deliberately broken his young wife's heart. He found him in his own room, writing and alone, as he had hoped to find him.

"Mr. Taunton," he began without preamble, "I know the secret which you share with my wife, that secret which leaves her fit for the pity of every true-hearted man, and which leaves you eternally disgraced."

Taunton stared. Never in his life had

[CONTINUED ON PAGE 28]

TRAVEL WITH THE
BREEZE
MOTOR VEHICLE

MODEL "J-875" Shown above, equipped complete with top and roll-up storm front, lamps, horn, rubber apron, full fenders, 1 3-4 in. solid rubber motor tires and roller-bearing axles.

7 other Breeze Models from $425 to $850

The practical wisdom of using an automobile in the country, is best proved by the success of the "*Breeze*"—built strong and sturdy and simple—built to travel the roads and do the work *you* would require of it with the least trouble and bother to you.

Its 18 horse-power engine is readily understood and kept in order, and can be driven at a speed of anywhere from 4 to 25 miles an hour.

The "*Breeze*" goes through deep sand and mud, over high hills and along rough roads with ease, in good or bad weather. It means greater convenience, greater saving of time, greater comfort for all the family.

Beautifully upholstered in green leather and handsomely painted.

SEND FOR CATALOG "G"
THE JEWEL CARRIAGE CO.
Elmwood Station, Cincinnati, O.

The Economy Motor Buggy

12 Horse Power — 2 Cylinders — Air Cooled

$500

A handsome, practical, solid rubber tire motor buggy. Costs less to own and operate than to keep a horse—no tire troubles—no punctures or blow-outs.

Most Economical Motor Vehicle Made

Suitable for country or city—rough roads no obstacle. A great hill climber—goes anywhere 4 to 20 miles per hour. Absolutely reliable and requires no experience to operate. Every "Economy" is fully guaranteed. If you are interested in a Motor Buggy, we have the best proposition to make you that you have ever heard of. Write us at once for catalogue and full particulars.

ECONOMY MOTOR BUGGY CO.,
Department Y Joliet, Illinois

Order Your New Bicycle Equipped with
INDIANAPOLIS
G & J TIRES

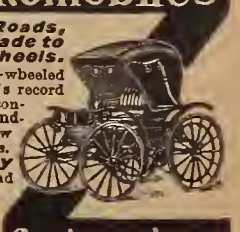
Highest Grade Bicycle Tires Made

They wear the longest, ride the easiest, and are less liable to punctures. Cost just a trifle more than cheap tires but are worth it, and are the most economical in the end. Don't accept imitations or substitutes. Insist upon Original G & J—the trade mark tells. For sale by all local dealers and will be supplied on new Bicycles when you specify them. Write for free catalogue 21

G & J TIRE CO., Indianapolis, Ind.

Holsman Automobiles

High Wheels Travel all Roads, Because all Roads are made to be traveled by High Wheels.



Oldest and largest makers of high-wheeled automobiles in the world. World's record for Hill-climbing and Reliability contests in this class. Only all ball-and-roller-bearing motor made. New friction-chain direct drive—no gears. ***Roadibility*** and ***Reliability*** are the reasons for high wheels and solid rubber tires. Send for our catalog and learn more about these popular, intensely practicable vehicles and their low cost.

HOLSMAN AUTOMOBILE CO.
Suite 133 Monadnock Blk Chicago

Go Anywhere

United States Rubber Company

42 Broadway, New York, April 1st, 1909.

The Board of Directors of the United States Rubber Company has this day declared from its net profits a quarterly dividend of Two Per Cent on the First Preferred Stock (including all outstanding old "Preferred" Stock), and a quarterly dividend of One and One-half Per Cent on the Second Preferred Stock of this Company, to Stockholders of record at 3 P. M. on Thursday, April 15th, 1909, payable, without closing of Tranfer Books, April 30th, 1909.

JOHN J. WATSON, JR., Treasurer.

WE HAVE SOLD THOUSANDS

of good new and used motor cars. We are the largest firm in the world dealing in cars. We save you 25% to 75% of original cost on used cars. We are the lowest on new cars. Get our big cut-rate bargain list. Deal with a responsible firm. References: Dun's, Bradstreet's or Metropolitan Bank, New York; National Newark Banking Co., Newark, N. J.; Foreman Bros.' Banking Co., Chicago, Ill. Write to-day.

TIMES SQUARE AUTOMOBILE CO.
NEW YORK: 1597 B'way & 215-17 W. 48th St. CHICAGO: 1332-34 Michigan Ave.

LEARN JEWELERS' ENGRAVING

A high salaried and easily learned trade, taught thoroughly by mail. We will teach the beginner better engraving than he can gain in years of rigid apprenticeship. We will also improve the skill of any engraver. Send for our catalog.

The Engraving School, Dept. 25, E. 40th St., Chicago

2941 Hidden Name, Friendship, Silk Fringe, Envelope and all other kinds of CARDS and Premium Articles. Sample Album of Finest Cards and Biggest Premium List, all for a 2 cent stamp. OHIO CARD COMPANY, CADIZ, OHIO.

Long ago the Scotch learned this

The sturdy old Scotchman must be amused at the recent "discoveries" that oatmeal is the best food in the world.

Our scientific men have been making experiments which prove that Americans eat too much fat and grease and not enough cereals.

The Scotchmen say: "Look at our nation as proof. The sturdiest nation on earth." Still we have one good point to make. We make better oatmeal than the Scotch.

They buy Quaker Oats and consider it the leader of all oatmeals to be had anywhere. Quaker Oats is sold in family size packages at 25c or at 30c for the package containing a piece of fine china. The regular size package sells at 10c. Follow the example of the Scotch; eat a Quaker Oats breakfast every day.

All grocers sell Quaker Oats.

Friend Hitch up to this high quality Columbus Buggy made with hand forged wrought iron gears—after a month's trial you'll insist on *keeping* it under our long time *Guarantee.* Let us send you our *Big 1909 Free Book* of 102 pages showing seventy-five Styles of Columbus Vehicles and a full line of high grade Harness at 40 to 50 per cent cash saving prices.

PRICE Saving 40 to 50 Per Cent

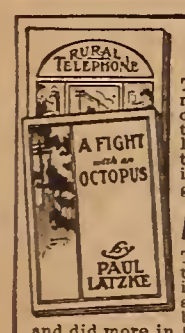
And a Month's Trial Will Sell You This Buggy

Don't fail to send us your name if you are now in the market for any vehicle or expect to be this year. Get our Book and Prices and prove what we say. *Columbus Vehicles* are now

Sold Only Direct At Straight Factory Prices

Why pay more? Why pay dealers' big profits? You can get better quality direct at half the cost. Write for prices and the Book today.

The Columbus Carriage & Harness Co.
Station C8, Columbus, Ohio



Rural Telephone

This 92-page illustrated book—not a mere catalog—tells how to organize, build and operate a telephone exchange or rural lines, copy of by-laws and constitution, renter's contract, how to incorporate, code of signals. A good education in electricity.

A Fight WITH AN Octopus

This 116-page illustrated book is the most thrilling and interesting TRUE story of how a few sturdy farmers put to rout a bunch of Eastern money kings and did more in ten years than the millionaires did in thirty. It will make your blood tingle to read it. Both of the above copyrighted books will be sent on receipt of five 2c stamps for mailing.

SWEDISH-AMERICAN TELEPHONE CO.
1751 Ravenswood Ave., Chicago, Ill.

Mrs. J. Lee

I MADE $3,000 AND BUILT THIS HOME IN ONE YEAR

Oklahoma

"and I can work in this territory for ten years more."—MRS. LEE.

J. O. Poling, O., made $14.50 first 8 hours. Easiest, quickest seller on market. W. T. Cory, Ind., sold 145 in 4 weeks. Cooks meals for 8 on 1 burner, saves half fuel bill. Onions, cabbage, meat, pudding. ALL cooked at one time by **NEW IDEAL STEAM COOKERS.** No intermingling of odors. Women astonished. Thousands of best people recommend it. We want State and District Managers and hustling agents to sell this and 100 other household specialties at $40 to $60 weekly.

Toledo Cooker Co., Box 48 Toledo, O.

GENUINE BARGAINS IN HIGH-GRADE UPRIGHT PIANOS

Slightly used instruments: 12 Steinways from $350 up; 6 Webers from $250 up; 9 Krakauers from $250 up; 7 Knabes from $250 up; 3 Chickerings from $250 up; 15 Lyon & Healys from $250; 10 Washburns from $200; also new special style Uprights $158; also 10 very fine Grand Pianos at about half. Write for full particulars. Cash or easy monthly payments. Lyon & Healy, 34 Adams St., Chicago. We ship everywhere on approval. All pianos fully guaranteed.

PATENTS SECURED OR FEE RETURNED.
Free report as to patentability. Illustrated Guide Book, and List of Inventions Wanted, sent free.
EVANS WILKENS & CO., WASHINGTON, D. C.

The Housewife's Club

Here is a chance for each of you to help one another. Possibly you have discovered some new and practical idea in keeping house, some labor-saving method, some delectable recipe, some new way of making home attractive, in general something to make the housework easier and life more enjoyable. Why not give the rest of our readers the benefit of your experience? We will pay twenty-five cents for any contribution available. This department will appear monthly. Contributions must be written in ink, on one side of the paper, and must contain not more than two hundred and fifty words. We would suggest that contributors retain copies of their manuscripts, as no contributions will be returned.
Address THE HOUSEWIFE'S CLUB, care of Farm and Fireside, Springfield, Ohio.

When Blacking the Stove

BEFORE you black your stove, soap your hands thoroughly (especially around the nails), and rub them dry. When you have finished blacking, wash the hands in clear water, and you will have no difficulty in removing the polish. MRS. A. D. L., Washington.

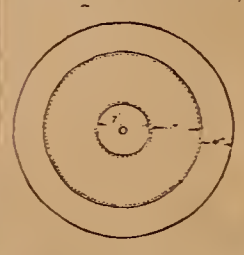
Perfect-Shaped Pie-Crust

HERE is an excellent way to bake pie-crust. If you once try it, you will never bake it any other way.

Roll out the dough, and turn a pie-pan upside down. Put the dough on the bottom of the pan, smoothing it over the sides. With a knife trim off the edge and with a fork prick holes in it, then bake. When it is taken out of the oven, and turned on a plate, you will have a perfect pie-crust. You will soon learn to take it out of the oven without breaking it. I never grease nor flour my pans.
J. N., Ohio.

An Excellent Mop

FROM a piece of outing-cloth (doubled) cut two circular pieces seven inches in diameter. In the middle of these cut a circle seven eighths of an inch in diameter. Clip the edges, turn in, and overhand. Annex to the outer edge a scant seven-inch ruffle,



and a four-inch ruffle to this. Slip over the handle of an old broom, and you will have a mop superior to any you have ever used and easy to keep clean.
M. C., Kentucky.

"Aunt Dinah's Corn-Bread"

Two aiggs, buttah big as two persimmons, jes' a little salt, three cupfuls ob cawn-meal (none ob yo' yaller meal, on'y fit fo' chickens, but fine white meal made ob flint cawn, like you git in ole Kaintuck), one cupful of white flowah, three heapin' teaspoonfuls ob bakin'-powdah.

Beat yo' aiggs up light, melt yo' buttah, an' throw it in along wid de salt. Poah in yo' milk—it mus' be fraish an' sweet, honey. Now stir in de cawn-meal good an' hahd, an' las' ob all de flowah wid de yeas'-powdah mixed in. Poah it inter a shaller pan, an' pop it inter de oven. Ef you-alls is lucky 'nuff to hab a gas-stove, dis yeah cawn-bread'll be done brown in no time, but in an ole wood-stove it takes a powahful sight ob bakin'!
L. R. T., Michigan.

Sorghum-Cake

ONE and one half cupfuls of molasses, two well-beaten eggs, two thirds of a cupful of butter or lard, one half cupful of buttermilk, two teaspoonfuls of soda, one half teaspoonful each of cloves, cinnamon and spice, with flour enough to make a rather stiff batter. Bake in layers in a moderate oven.

For the filling use one cupful of brown sugar and one half cupful of cream boiled until it thickens. K. C., Kentucky.

Surprise Crullers

Two cupfuls of white sugar, one half cupful of lard, three eggs, one pint of buttermilk, one small nutmeg, two teaspoonfuls of baking-soda, a pinch of salt, and flour. Mix the sugar, lard and eggs together. Add the grated nutmeg. Add the soda to the buttermilk, and work it in gradually. Add the salt last. Work in barely enough flour so the dough can be rolled, as they will be lighter if not too stiff. Cut in rings, and drop in boiling fat. When brown they will be done. When taken from the fat, roll at once in plenty of powdered sugar.

Weights for Holding Paper Patterns

WHEN using paper patterns, lay them on your goods, and instead of pinning, use bags filled with pebbles of the right size, to hold the paper in place. These are less trouble than the pins, as with one sweep of the hand they can be removed, and the pattern is not pricked full of holes. If you haven't the time to make bags yourself, let the children make them. They would enjoy gathering the pebbles and making something for mother. MRS. C. E. F., Ohio.

Novel Porch-Box

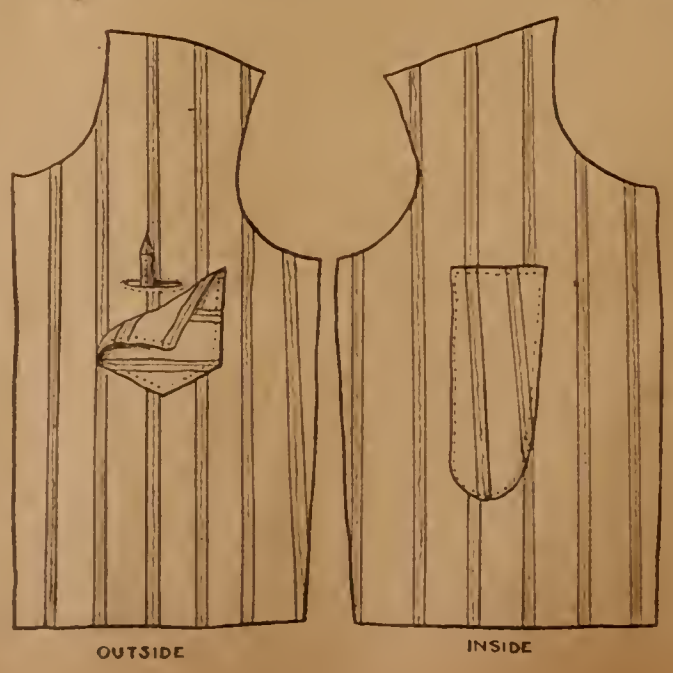
A NOVEL porch-box or vase was evolved from a large-sized cheese-box supported on the iron pedestal or standard from a discarded kitchen water-heater. Not wishing to purchase paint, I decided to stain the box (the pedestal being already painted black). A package of green dye, meant for cloth, was mixed according to directions, with boiling water and salt, and applied with a clean paint-brush. The grain of the wood was thus beautifully brought out, causing it to resemble greenish, or weathered oak. This stain has withstood both sun and wind surprisingly well, and it is easy enough to give it another application when needed. My porch-box full of bloom has attracted much admiring comment.
M. E. S. H., Michigan.

Enamel the Pantry Shelves

IF YOU wish your pantry shelves to always look nice and clean, and wish to have them free from insect pests, try enameling them with white or cream enamel, and I am sure you will be pleased with the result, for they are so much easier to keep clean. You will find it quite an improvement over either newspapers or oil-cloth. Two coats should be put on, and this will keep nice for a long time. All the cracks will be so effectively closed that there will be no lodging-place for insects. Also try covering your kitchen table with zinc, bringing it down well on the edges and tacking it securely there. It will be easily kept clean and one need not be afraid of setting hot dishes upon it, like oil-cloth.
M. M. W., Ohio.

Inner Pocket for Holding Pencil

I WISH to help, if I can, some mother who has a little boy just starting to go to school, and who finds it difficult to keep him supplied with pencils. This clever little inner pocket has saved me a great deal of worry and expense, even though it has been quite a little trouble. In his waist I insert a small tailored pocket, just under the outside pocket, and make it as long as a new pencil. The opening of this inner pocket should be about one and one half inches wide, and as it is underneath, my son doesn't mind it. There is room in it for him to carry his penknife and pencil, and they cannot fall out while he is playing that dear game "base-ball." The illustration at the bottom of the page shows the outside pocket that he uses to hold his handkerchief, and also the little inner pocket for his pencil.
MRS. L. L. B., Tennessee.



To Remove Mildew

I HAVE found that paste made of powdered chalk is an excellent thing to remove mildew from linen or cotton goods. MRS. M. E. H., South Carolina.

Cream-Pie

I NOTICED an inquiry from a subscriber (Mrs. E. D. W., Connecticut) for cream-pie made of sweet cream and scalded milk. Here is one that I have used for years:

First bake rich crusts, and set aside to cool. Take two eggs, one half cupful of sugar, one small tablespoonful of flour (or corn-starch), one teacupful of cream and the same of sweet milk. Mix flour and sugar together and then add the beaten eggs, leaving the white of one. Have your milk and cream scalding on the stove. When almost boiling, turn it into the dish containing the other ingredients, stirring continuously. After beating a few minutes, pour it back in the vessel in which the milk was scalded, and set over a hot fire for a minute to thicken. Remove, and add any flavoring desired; fill crusts. Beat the white of one egg to a stiff froth, and add a pinch of sugar. Let brown for a second in the oven. MRS. J. L. W., Missouri.

Child's Clothes-Hanger

A HANDY little clothes-hanger for children can be made out of an old broom-handle. Make a cross for a standard out of two pieces of wood about fourteen inches long, three inches wide and one and one half inches thick. Fasten together, bore a hole in the center, and insert the handle. Screw half a dozen hooks in the handle as shown. Paint or enamel any desirable shade, and the hanger is finished. Small children will enjoy hanging their own dresses on this hanger, which will teach them to be neat and tidy. E. B., Wisconsin.

A Short Cut

INSTEAD of grating a lemon to use as a flavoring for lemon-pie, cut the lemon in two, squeeze out the juice, and throw the lemon-peel into boiling water, to be used for the filling. Let boil while making the crust, then lift out the peels and make as usual. The pies taste just as good as if the peel were grated, and it does not take half so long, to say nothing of grated fingers. MRS. F. S., Idaho.

Swollen Oats for Chickens

MY CHICKENS refused to eat dry oats, notwithstanding that I had purchased a quantity, which would be a dead loss to me if they persisted in their dislike. As an experiment I tried pouring boiling water over the oats, and letting them stand, closely covered, until they had swollen to twice their original size. I fed them while yet warm, and was rewarded by an eager appetite on the part of the fowls. Hereafter I feed oats in moderation and in variation with other grains throughout the winter, but always prepared in this way.
M. E. S. H., Michigan.

Questions Asked

I WOULD appreciate it if some of our many readers would send me directions for making a lady's knitted glove in some pretty stitch. Z. W., New York.

Will some reader send me, through FARM AND FIRESIDE, a recipe for making dill pickles that will keep through the winter, as we want them for winter use.
MRS. M. C., West Virginia.

I would be very grateful if some one would give me recipes for canning "greens"—dandelion, spinach, beets—also a recipe for cooking salsify. I have been a constant reader of FARM AND FIRESIDE for the past twelve years, and enjoy our "Housewife's Club" very much. A SUBSCRIBER.

More Battle-Ships

By Eugene Wood

About the time the Commission on Country Life was appointed a representative farmer, in the course of a conversation with the writer, ventured to suggest that the country needed good roads about as much as it needed battle-ships.

What an absurd statement! For when you come to think it over, whatever may be the condition of the roads in the Sinking Spring neighborhood after a rainy spell, the fact that this country is so lamentably deficient in first-class battle-ships cannot but bring the mantling blush of shame to every patriot's cheek. This is all the more disgraceful in a country so rich and prosperous and when you remember that you can get a very decent battle-ship for five or six million dollars. Of course, if you want anything fancy, it soon mounts up into money. But a good, common battle-ship that will do for all practical purposes you can get for five or six million dollars if you market carefully. And if you take it in nights, so that the dew and the rain don't get to it, and do not leave it standing in the fence-corner where you used it last, it will be from five to ten years before it becomes useless and out of date.

"Be sure to take the battle-ship in at night, so that the dew and rain don't get to it"

When you consider how often our beloved country is attacked by marauding pirates, who descend upon our defenseless coasts, rifle the hen-roosts and the clothes-lines and get away in safety because we have an insufficient navy, no man that *is* a man, even though he has never seen a war-ship, should begrudge the trifling sum of a hundred and sixty million dollars which is asked for, not to get a complete outfit of battle-ships, but merely a good start toward a complete outfit. There are many advantages to be had from a strong navy aside from the protection of our shores from the ruthless invader. Our gallant fleet has just made the circuit of the globe, sailing from no place in particular to no place in particular, carrying no cargo but our best wishes to those nations who are nice to us, and a veiled threat to swat 'em one they won't forget in a hurry if they ever undertake to act nasty; bringing back no cargo except rich recollections of a bully good time every place, especially in Australia. Isn't that worth the money, well worth it?

"Farmers' wagons now sink deep in the sucking mud"

And remember the employment that the navy affords to young and energetic fellows with a taste for travel, who are cursed up hill and down dale without giving back talk. Merely to have a naval officer swear at you is a liberal education in itself, and to have to keep still while he calls you every name he can lay his tongue to is excellent mental and moral discipline. There is the improvement to the health from the ozone-bearing sea air and from visits to the water-front resorts when Jack goes ashore on liberty-parties. The work is light, for there are no more sails to attend to. Indeed, it is so light that "monkey-drills," gymnastic exercises, have to be maintained to keep the sailors' blood in order. There is washing down the decks, and shining up the bright work, and an occasional gun-drill, and very seldom coaling ship. And there is this great difference between serving your country on board a man-of-war and serving your country in state's prison, that in some state's prisons the product of your labor is sold in competition with other laborers', and so beats down wages, while on board a man-of-war there isn't any product of your labor. The farmer works to raise the rations for the men-of-war's men, but the men-of-war's men work and give nothing to the farmer except pictures of themselves aboard ship in the magazines and illustrated papers.

"'Monkey-drills' to keep the sailors' blood in order"

Figures to show how many miles of mud road could be made into good, firm, smooth-as-a-table turnpike for a hundred and sixty million dollars are away at the other side of the room at the far left-hand end of the third shelf, and so are not at hand at present. But it is safe to say that a hundred and sixty million dollars, carefully laid out, would build quite a long stretch of road not only for rural free delivery, but for the farmers' loaded wagons to roll along quite easily where now they splash along with many a "Git ep, Bill! Git ep, Dolly!" sinking into holes occasionally and needing a rail off a fence to pry them out of the sucking mud.

The money to keep a hundred and sixty million dollars' worth of war-ships in repair, ticklish things they are, always getting out of kilter; the money spent for coal in moving them about from Newport to Old Point Comfort, to New York Harbor, to Nice and the Mediterranean station, around the world and around the world, going visiting to the neighbors; the wages and board and doctoring of the husky young fellows doing "monkey-drills" to keep their blood in order after three square meals a day and nothing to do; the up-keep of the navy-yards and everything else connected with them—all this money would probably go a long way toward maintaining country roads in pretty fair shape even in soft weather.

But then, that's a poor, pinching, stingy way to look at it.

Another Use for Seaweed

Large quantities of seaweed are washed up on the south shore of Northumberland Strait in the vicinity of Malagash and North Shore Wallace, Nova Scotia. Heretofore only a little of this material has been gathered for fertilizing purposes, the rest is going to waste.

Last summer, however, representatives of an American mattress-manufacturing company spent several weeks in the vicinity investigating both the quality and the quantity of the seaweed washed up.

About one hundred and twenty-five tons of this seaweed were gathered, partly dried and pressed. It was found that it would make excellent and very inexpensive material for mattress-making. The bales of seaweed were sent to the United States, and mattresses made from it were very satisfactory.

The company intend to resume operations on a much larger scale this year, so in the near future we will have many mattresses made of dry seaweed which comes from Nova Scotia.

Saving Niagara

The United States and Canada have decided to limit, by treaty, the amount of water that may be taken from Niagara Falls for power. The average discharge of the river is two hundred and fifty thousand cubic feet a second; of this discharge no more than thirty-six thousand cubic feet a second may be taken from the Canadian side and no more than twenty thousand cubic feet from the American side.

It is estimated that the total available force of the Falls is four million horse-power, and that of the river from Lake Erie to Lake Ontario is seven million horse-power.

Alligator Ranches

Alligators, once regarded simply as noxious reptiles, are now protected by law in state preserves in the Florida swamps, and alligator ranches are most profitable institutions. A half-grown 'gator is worth more than the biggest steer that ever bellowed. Alligator teeth bring from two to four dollars a pound; alligator hide is in great demand for such articles as trunks, valises and pocket-books, and fresh alligator eggs, incidentally, make first-class omelets. Mother alligator lays from one to two hundred eggs a little larger than a hen's. She deposits about twenty in a carefully-scooped hollow in the sand, covers them with a rude mat of mud and grass, and then with successive layers and mats she builds a conical structure about four feet, in which the small 'gators are hatched by the warmth of the sun. For some time after their entrance into the world the scaly youngsters follow their mother about as chicks follow a hen, and are guarded by her from all dangers.

The Machine for Smooth, Accurate Work

The country maid is now just as stylish and up to the minute as her town sisters. The modern magazines keep her informed and it is easy for her to make her own pretty things with the aid of the magazine patterns and the SINGER Sewing Machine.

Just a word of warning before attempting delicate machine work on dainty fabrics. Don't put a fine material into a machine unless it is a high grade, well-known machine. Your frock or lingerie will be a disappointment if not a failure.

A cheap, inferior machine may make a pretty good-looking seam, but so tight or irregular in tension that any strain draws and puckers the goods.

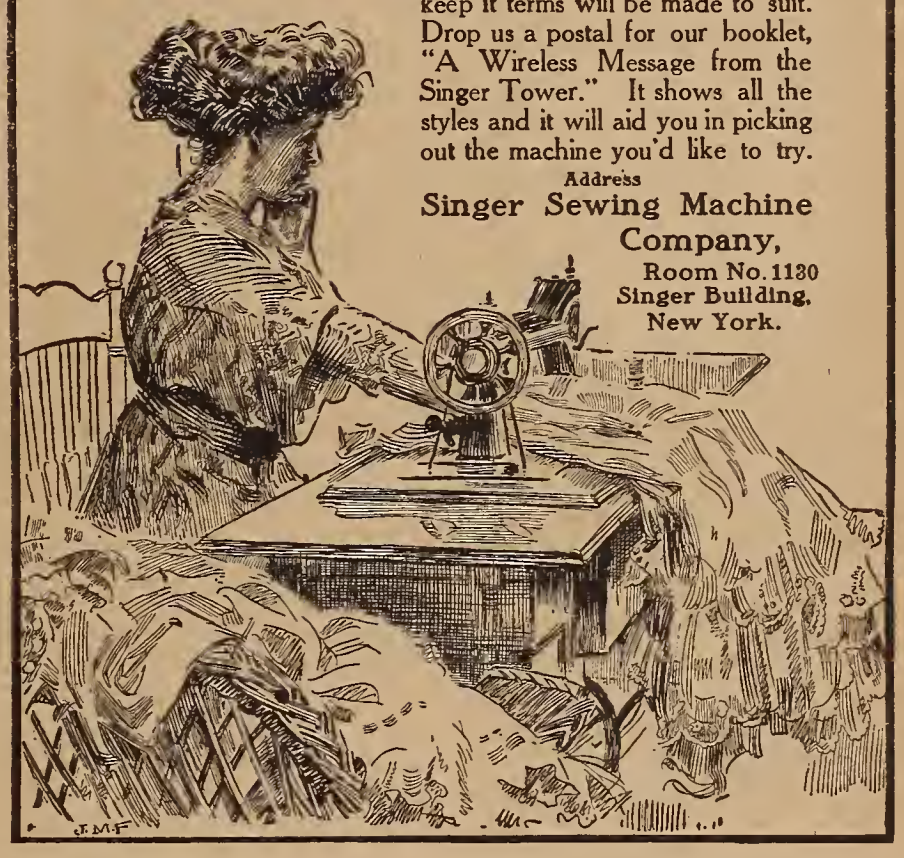
The seam made by the SINGER is no tighter than the weave of the goods and is just as elastic as the goods. A Singer stitch is elastic. A Singer seam never draws.

SINGER SEWING MACHINES

Prove this at our Expense on a Singer in Your Own Home

We don't ask anyone to try a Singer on faith or our say so. We will be glad to set a Singer down in your home and let you try it until you are satisfied that you do or do not want it. We will pay all the cost to and from and ask no favors except a complete try-out. Then if you want to keep it terms will be made to suit. Drop us a postal for our booklet, "A Wireless Message from the Singer Tower." It shows all the styles and it will aid you in picking out the machine you'd like to try.

Address
Singer Sewing Machine Company,
Room No. 1130
Singer Building,
New York.



NIAGARA FALLS

These much talked and read about points of interest can be seen via The Substitute Photograph Post Card Route. 30 views of Niagara Falls and 26 views of Washington. 25c each or both for 50c. Packed in a neat box. If not satisfactory, return cards and money will be refunded. SUBSTITUTE PHOTOGRAPH CO., 5 Nevada Bldg., Cincinnati, Ohio.

WASHINGTON, D. C.

It is to your advantage to mention Farm and Fireside in writing to advertisers. Farm and Fireside folks get the very best attention.

Here Is Something New From Kalamazoo

Prove for yourself in your own home, that the Kalamazoo is the most perfect—most economical—most satisfactory range for you to use—Your money back if it's not.

Send for Catalog No. 183 with special terms and compare Kalamazoo prices with others

Cash Or Time Payments

We want every housewife to know the comfort and convenience of a Kalamazoo in her home. You can buy on **easy time payments** or pay cash if you like. Either way—you save $10 to $20 on any stove in the catalog. We make it easy for responsible people to own the best stove or range in the world.

We Pay the Freight

Kalamazoo Stove Co.
Kalamazoo, Mich.

"A Kalamazoo Direct to You

Reliable Dress-goods

For over 65 years the women of the United States have used **Simpson-Eddystone Black-&-White** calico prints. A long time for one kind of cotton dress-goods to remain the favorite! The reason: beautiful patterns, absolutely fast colors, and cloth of enduring quality.

Ask your dealer for Simpson-Eddystone Prints. If he hasn't them write us his name. We'll help him supply you. Don't accept substitutes and imitations.

The Eddystone Mfg. Co., Philadelphia
Established by Wm. Simpson, Sr.

Three generations of Simpsons have made

SIMPSON TRADE MARK REG. U.S. PAT. OFF.
EDDYSTONE PRINTS
Founded 1842

Do you want a fine farm for little money

—a farm that is bigger than you can afford to own where you live now?
—a farm that will grow bigger crops than you can grow on your present farm?
—a farm that will make you a good living and leave you some profit besides?
—a farm that will grow more valuable each year?
You can get such a farm

in the Southwest

along the Cotton Belt Route in Southeast Missouri, Arkansas, Louisiana and Texas.
Some of the finest land in the Southwest lies along this line. It can be bought on easy terms for $5 to $25 an acre.
The low rates offered by the Cotton Belt each month would make a trip of investigation very cheap and profitable.

Do you want to know more about this land? Send two cents in stamps for postage on beautifully illustrated books about this great country. It will pay you to read them. Write today.
E. W. LaBEAUME,
Gen. Pass. and Ticket Agent,
1571 Pierce Bldg., St. Louis, Mo.

Own a FARM

Only $2 an Acre Down
Fine Climate Pure Water

These lands are in the Park Region of Central Minnesota, raising wheat, corn, oats, rye and the finest vegetables you ever saw. Clover grows without reseeding; a perfect dairy and sheep country with the markets of Minneapolis and Duluth near at hand. Don't pay rent any longer. You can own a farm. This land now sells for $10 an acre.
You can begin with 40 acres; but if you can pay more you should take 80 or 160 acres. 40 acres would cost you $80 down, and I will make terms to suit your wants.
My plan of selling farm lands makes it easier, and cheaper for you to buy a farm than it would be for you to take up a 160 acre claim and live on it five years according to the Homestead law.
Even non-farmers, looking only for a safe and constantly enhancing investment should look into this.

FREE I have published an illustrated booklet which points the way. You want to get it. It is free; just write for it.

FRANKLIN BENNER
539 Bank of Commerce Bldg.,
Minneapolis, - - - Minn.

SUNNY Florida

FARMS.
Why not locate in Manatee County, (West Coast)? Ten acres net as much as a hundred in Northern States. Delightful climate, abundant rainfall, convenient markets.
VEGETABLES NET $1000 ACRE.
Outdoor work the year-round, several crops a season. Lands reasonable. Write for full information.
J. W. WHITE,
General Indl. Agent,
Seaboard Air Line,
Dept. H B,
Portsmouth, Va.

FARMS
In the green fields of VIRGINIA

Where the summers are long and delightful; where the winters are short and mild. Here you can grow splendid crops at small cost. Rich soil, abundant water, excellent markets and good neighbors.
Desirable Farms can be secured for
$10 PER ACRE AND UP
along the N. & W. Ry. Full information and valuable booklet upon request
F. H. LaBAUME.
Agricultural and Industrial Agent
Norfolk & Western Railway,
Box M F. ROANOKE, VA.

VIRGINIA
Is an ideal climate for a home. Good lands cheap, near the great markets, adapted to the growing of all kinds of crops, fruits, trucking, poultry and stock raising.
Write for Handbook and information to
G. W. KOINER
Commissioner of Agriculture
RICHMOND, VIRGINIA

Madison Square Patterns

Dresses for Morning Wear

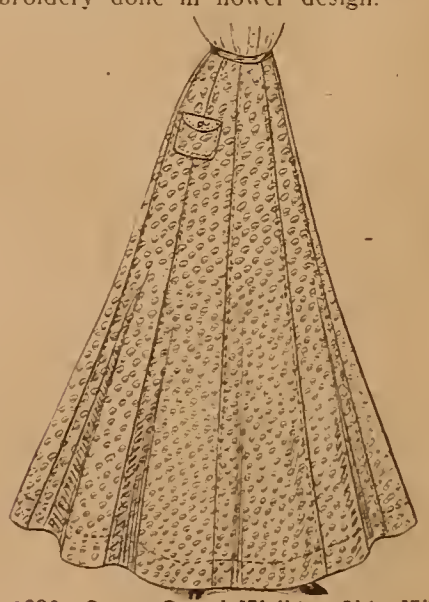
HAVE you ever thought how really important it is to have your housework dress good-looking? These morning-dresses are the ones we women wear the most, and we ought to make a point to have them neat and trim and possessing a style of their own. It will count in the end. The lines want to be right, to begin with, and then the morning-dress should be developed in some cotton fabric the color of which is sure to be becoming. Take the little morning-dress illustrated on this page in pattern No. 1303. This is a one-piece house dress. It might be termed a wrapper, and yet it has an unusual amount of style and a certain trimness of its own. The dress fastens in front under the box-plait, and this with the fact that it is all in one piece makes it a convenient little gown to slip on in a hurry in the morning. Then there is the little morning-dress illustrated in patterns Nos. 1304-1305. In making up this dress, if one wishes, the waist and the skirt may be joined and the front box-plait of both the waist and skirt can be so trimmed that a continuous line is produced which will give the princess effect.

No. 1303—One-Piece House Dress
Pattern cut for 32, 34, 36, 38 and 40 inch bust measures. Quantity of material required for medium size, or 36 inch bust, twelve and one half yards of twenty-four-inch material, or eight and one half yards of thirty-six-inch material, with five eighths of a yard of tucking for yoke and collar.

COLLAR-AND-CUFF sets are among the prettiest of the dress accessories this season. They show strikingly original designs. Some of these collar-and-cuff sets to wear with spring and summer jackets are of the finest linen lawn with insertions of baby Irish lace—real, if one can afford it, or if not, imitation is quite as effective. Among the most novel of these sets is one cut in many points. It is made of fine linen, and the collar is cut with seven points, while each cuff shows three. Edging the collar and cuffs and following the line of the points is Irish crochet lace about an inch in width. Then there are insets in the collar and cuffs following the direction of the points. These are of Irish crochet insertion laced together with lines of delicate French embroidery done in flower design.

No. 779—Guimpe Waist
Pattern cut for 34, 36, 38 and 40 inch bust measures.

No. 780—Box-Plaited Skirt—Eight Gores
Pattern cut for 24, 26, 28 and 30 inch waist measures.



No. 1093—Seven-Gored Walking-Skirt With Pocket
Pattern cut for 24, 26, 28 and 30 inch waist measures.

No. 1061—Wrapper With Round Yoke
Pattern cut for 32, 34, 36 and 38 inch bust measures.

No. 726—Shirt-Waist With Yoke
Pattern cut for 32, 34, 36 and 38 inch bust measures.

No. 1092—Five-Gored Skirt With Plain or Plaited Back
Pattern cut for 22, 24, 26, 28, 30, 32 and 34 inch waist measures. Length of skirt, 41 inches.

MADISON SQUARE PATTERNS

For every design illustrated on this page we will furnish a pattern for ten cents. The Madison Square Patterns are very simple to use. Full descriptions and directions come with the pattern, as to the number of yards of material required and how to cut, fit and put the garment together. The pattern envelope shows a picture of the garment. All of the pieces of the pattern are lettered, so that even if the collar in the pattern should look like the cuff, there is no possible way of mistaking one for the other, for each bears its own letter identifying it.

Send orders to the Pattern Department, FARM AND FIRESIDE, 11 East 24th Street, New York City. When ordering, be sure to comply with the following directions: For ladies' waists, give bust measure in inches; for skirt, give waist measure in inches; for misses and children, give age. Be sure to mention the number of the pattern you desire. Satisfaction guaranteed.

A distinctive feature of the Madison Square Patterns is the originality of their designs. They are always up to the moment in style and yet they are never extreme.

Copyright, 1909, by The

in Many Attractive Designs

Fashionable Spring Skirts

MANY changes are seen in the new fashionable skirts. They are still scant and still close-fitting at the hips, though Paris hints at wider skirts, and even goes so far as to suggest the return of the crinoline. Here in America, however, the skirt of to-day does not flare and it is scant in its width. Yet plaits are not only returning, but they are here. One of the very newest skirts for spring and summer is illustrated on this page in pattern No. 1311. This skirt is cut in five gores, having the wide front gore cut off below the knees, where it is finished with a plaiting. This is an extremely pretty model to choose in making up a foulard or any summer silk. The gored skirt with a front box-plait is another fashionable model. This box-plait may be plain or trimmed with cotton soutache or lace, according to the fabric of the gown. A number of the skirts are made with an extended waistline, but this extension is not anywhere near as high as it was in the late winter. However, many of the spring coat-and-skirt suits are worn with a high-waisted skirt, and then completed with a short-waisted guimpe like the one illustrated on this page in pattern No. 1281.

No. 1310—Tucked Waist With Square Yoke
Pattern cut for 32, 34, 36 and 38 inch hust measures.

No. 1311—Skirt With Plaiting in Front Gore
Pattern cut for 22, 24, 26 and 28 inch waist measures.

No. 1304—Waist With Turn-Down Collar
Pattern cut for 32, 34, 36, 38 and 40 inch bust measures.

No. 1305—Seven-Gored Skirt
Pattern cut for 22, 24, 26, 28 and 30 inch waist measures.

No. 706—Corset-Cover With or Without Fitted Skirt Portion
Pattern cut for 32, 34, 36, 38 and 40 inch bust measures.

No. 1195 No. 1194 No. 1193

No. 1195—Guimpe Dress With Tab Bertha
Pattern cut for 6, 8 and 10 year sizes.

No. 1194—Plaited Pinafore Dress With Guimpe
Pattern cut for 4, 6, 8 and 10 year sizes. Quantity of material required for medium size, or 8 years, four yards of twenty-seven-inch material, or three yards of thirty-six-inch material, with five eighths of a yard of velvet and one and one half yards of thirty-six-inch material for guimpe.

No. 1193—Plaited Dress in Princess Effect
Pattern cut for 8, 10 and 12 year sizes. Quantity of material required for medium size, or 10 years, six and one fourth yards of twenty-seven-inch material, or five yards of thirty-six-inch material, with three eighths of a yard of velvet.

No. 1281—Short-Waisted Guimpe
Cut for 32, 34, 36 and 38 inch hust measures.

Crowell Publishing Company

MADISON SQUARE STYLE BOOK

Are you accustomed to see the style book of the Madison Square Patterns? If you are, of course you realize its value to you in making your own clothes. The new style book, better and bigger and more attractive in every way, is now ready. Be sure to send your order for it. Inclose four cents in stamps, and address your letter to the Pattern Department, FARM AND FIRESIDE, 11 East 24th Street, New York City.

This style book will make you familiar with all that is newest in the spring fashions. It will tell you all about clothes for the little folks as well as the grown-ups. The smartest clothes any mother can make for her children are those from the Madison Square Patterns.

Here is our latest liberal offer: We will give any two Madison Square Patterns for sending two yearly subscriptions to FARM AND FIRESIDE at the regular price of thirty-five cents each. Your own subscription may be one of the two. When ordering, write your name and address distinctly. We will send FARM AND FIRESIDE one year, new or renewal, and any one pattern for only forty cents.

10 PENNIES LEAD 10 MEN TO MAKE $32,034.81

See the fortunes made with Strange Invention. Of this sum Korstad (Farmer) made $2,212.13 in 2 weeks; Zimmerman (Farmer) $3,856 in 39 days; Stoneman (Artist) $2,481.68 in 60 days. No wonder, Cashman says:--"A man who can't sell your goods, couldn't sell bread in a famine." But listen! Rasp (Agent) made $1,685 in 73 days; Juell (Clerk) $6,800; Ovlatt (Minister) $4,000; Cook (Solicitor) $4,000; Rogers (Surveyor) $2,800; Hoard (Doctor) $2,200; Hart $2,000. This wonderful opportunity heretofore enjoyed by only a limited number now open to all. Hurrah! Hundreds already getting rich. You can too, why not. Experience don't matter. Allen's Bath Apparatus gives every home a bathroom for $5. Think of it! Energizes water, cleanses almost automatically, no plumbing. Could anything be more popular? Its irresistible. Reese saw 60 people---sold 55, result $320. "Sell 8 out of 10 houses" writes Maroney. LET US START YOU as agent, salesman, manager, cash or credit plan, all or spare time. Caution---This ad. won't appear again. Territory going fast. Risk 1 cent now--a postal--for free book, proofs, and remarkable offer.
THE ALLEN MFG. CO., 1314 Allen Bldg, Toledo, O.
"Lucky I answered your ad."--A. P. Lodewick, Me.

ALBERTA LANDS SASKATCHEWAN LANDS

WE have thousands of acres first selected and choice farm lands located close to New Grand Trunk Pacific and Canadian Northern Railways. Wholesale and retail propositions. Improved and wild lands in Manitoba. Prices right. Terms easy. Write us for what you want. Pamphlets and maps mailed on application. Active and reliable Agents wanted.
STEWART & MATHEWS CO. (Ltd.)
305 Jackson St. St. Paul, Minn.

Cheap Tennessee Farms Making Men Rich!

Fortunes are being made on fertile Tennessee farms. They raise big crops of Cantaloupes, Cabbage, Tomatoes, String Beans, Green Corn, etc., also Horses, Cattle, Sheep, Swine, Poultry and Eggs. Write me at once for Free Literature. I'll tell you how to get one of these splendid farms for $5 to $20 per acre. Act quickly!
H. F. Smith, Traf. Mgr. N. C. & St. L. Ry. Dept. S, Nashville, Tenn.

480 ACRE PRAIRIE FARM FOR $3000.

In Alberta and Saskatchewan. Deep, rich loam, producing unsurpassed crops of wheat, oats, barley, vegetables, etc. Crop failures unknown. Pure water; fine climate; railroads, grain elevators and good markets handy. Only 200 left. $1000 down; balance 8 years or before; terms suitable. Write
Franklin Benner Land Co., 539 Bank of Commerce, Minneapolis, Minn.

OLD VIRGINIA FARMS

Good lands, low prices, mild climate. Free illustrated catalogue. This is the country for the Northern Farmer. Write
CASSELMAN & CO., RICHMOND, VA.

PATENTS Watson E. Coleman, Washington, D.C. Books free. Highest references. Best results.

A BLESSING TO MOTHERS

No more mending of buttonholes. Try the NEVERTEAR and be convinced. Send ten cents for package.
NEVERTEAR BUTTONHOLE CO., NEW CANAAN, CONN.

Agents Wanted

AGENTS PORTRAITS 35c, FRAMES 15c, sheet pictures 1c, stereoscopes 25c, views 1c. 30 days credit. Samples & Catalog Free.
Consolidated Portrait Co., 290—81 W. Adams Street, Chicago

AGENTS WANTED Men or Women to sell Consumers. Big Profits. Groceries, Coffees, Teas, Extracts, Perfumes, Soaps, etc. With or without premiums. Write for catalogue A.
Bushway Flavoring Extract Co., 951 N. Water St., Decatur, Ill.

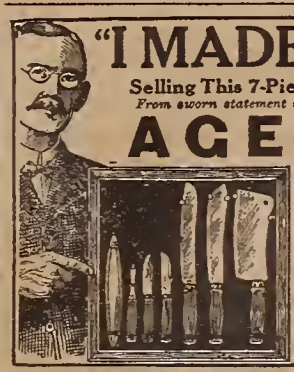
JUST OUT Low priced, 3-lb Mop: turn crank to wring; hands keep clean. Women all buy; 150% to Agents; exclusive territory given; catalog free.
U. S. MOP CO., 477 Main St., Leipsic, Ohio.

AGENTS NEW INVENTION; never before sold in your territory; coin money. Automatic hame fastener; horse owners wild about them; sells on sight. Any person getting territory will make a fortune. Write at once.
AUTOMATIC FASTENER CO., L 266, CINCINNATI, OHIO

AGENTS NINE IN ONE
$75 monthly. Combination Rolling Pin. Nine articles combined. Lightning Seller. Send for Sample. FORSHEE MFG. CO., Box 205, Dayton, O.

$18 to $30 A WEEK SURE

Farmers "Ever-Ready" Tool Kit does it. Agents going wild over results. M. Snyder made $46 in 2 hrs. Joseph Pine took 65 orders in two days. M. D. Finch sold 42 in 9 hrs. Had no experience. You can do it. To show it means a sale. FREE SAMPLE to workers. Foote Mfg. Co., Dept. 801 Dayton, O.



"I MADE $12 PER DAY
Selling This 7-Piece Kitchen Set"
From sworn statement of H. S. CUNNINGHAM.
AGENTS
are coining money—selling from 50 to 500 sets per week. You can do it. Send your address today and let us PROVE IT. Experience unnecessary. We show you how to make $3 to $10 a day. OUTFIT FREE to workers.
THOMAS MFG. CO.
404 Home Bldg.
Dayton, Ohio

Big Saving
On Your Home Reading

FARM AND FIRESIDE has made special, exclusive arrangements with the principal farm journals, newspapers and magazines, by which you can buy your reading matter at a great reduction in price. This is a great opportunity. You should take advantage of it **at once.**

Why We Can Do It

Each of these great papers and magazines has recognized the high quality and high standard of FARM AND FIRESIDE's readers. In order to introduce themselves to our subscribers and readers they are willing to make a special price to **you,** when bought in connection with FARM AND FIRESIDE.

Here are our great Spring Offers. Which do you want?

Offer No. 1
Our Great News Offer
Farm and Fireside
Two full years—48 numbers.
Thrice-a-Week World
New York's greatest newspaper. Giving the latest news from all over the world.
One full year—156 numbers.
$1.00 for both papers—204 issues in all, both papers for the price of the World alone.

Offer No. 2
Farm and Fireside
One year—24 numbers.
Kimball's Dairy Farmer
One year—24 numbers.
50c Our price for both papers — 48 issues in all.

Offer No. 3
Farm and Fireside
One year—24 numbers.
Farm Poultry
One year—24 numbers.
50c Our price for both papers — 48 issues in all.

Offer No. 4
Farm and Fireside
One year—24 numbers.
Southern Planter
One year—12 numbers.
50c Our price for both papers — 36 issues in all.

Offer No. 5
Farm and Fireside
Two full years—48 numbers.
Missouri Valley Farmer
One year—12 numbers.
50c Our price for both papers — 60 issues in all.

Offer No. 6
Farm and Fireside
Two full years—48 numbers.
Chicago Inter-Ocean
A great weekly newspaper.
One full year—52 numbers.
$1.00 For both papers—100 issues in all. Both papers for the price of the Inter-Ocean alone.

Offer No. 7
Farm and Fireside
One year—24 numbers.
Vick's Magazine
One year—12 numbers.
Farmer's Voice
One year—12 numbers.
$1.00 For all three for one full year — a great whole family group of papers and magazines.

Send your order to FARM AND FIRESIDE right away. State which offer you accept. We cannot promise that these bargains will last.

FARM AND FIRESIDE, Springfield, Ohio

You Must Act At Once

Good Reading for Sunday

Thoughtful of Others

WONDERFUL Spring in all her freshness and beauty is with us again. It is the one time of the year to which we look forward with great pleasure and joy. Somehow spring seems to pervade our whole being. We feel at peace with the world, and the future begins to look bright and promising. Our hearts are instilled with the spirit of hopefulness and good cheer, and we forget our petty worries in our eagerness to drink in the beauty of our surroundings and admire the mysterious and wonderful work of Mother Nature. We know not why it is, but as soon as the warm sunny days come, our souls are filled with joy and a longing to do noble things, to make others happy and to make our lives worth living. We are more light-hearted, more patient; and to those of us who are blessed with good health, our happiness is very great. The very flowers in our garden breathe joy into our hearts as we water and care for them from day to day.

But it often happens that we are so engrossed with every-day affairs that we forget all about the promises we made to ourselves to do good and to make others happy. So we stay in our own little sphere, selfishly satisfied in our happiness and contentment. Little do we know that perhaps near our own home there is some poor, unhappy old lady who is a shut-in, and to whom spring does not mean as much as it does to us. If you know of some unfortunate shut-in who lives near you, do try and bring a little "Spring" into her life. Just one little flower, lovingly plucked and given with a sweet wish or a kind word, would mean so much to her. It isn't what you give, but the spirit in which it is given.

Even the poor, ignorant, little East Side boys of New York know what it is to help others, and their help is truly of the right sort, for it always means self-denial. Speaking of these poor East Side boys reminds me of a story I heard not long ago, about Jacob Riis, the well-known millionaire philanthropist. Being a great lover of flowers, he was accustomed each morning to take a large bunch of them to his office. In order to reach the building, it was necessary for him to go through a very poor quarter of the East Side, and at a certain corner he was always greeted by two poor-looking little newsboys with the words, "Please, mister, give us a flower? Please give us a flower?" And as Mr. Riis looked at their torn and shabby clothes, and thought of their humdrum existence, he wondered why these boys cared for flowers, and then, too, he was puzzled to know what they did with them. So he made up his mind to follow the boys. They walked down the dingy street, and then turned down a dark alleyway until they reached a tumble-down shanty. As they opened the door, Mr. Riis looked in the window and saw a thin-faced old lady in bed, and the next moment the boys crept in quietly and placed their flowers in a broken vase on a table beside the bed. The old lady's face lit up when she saw them and she breathed thanks and gratitude to those dear boys, who would never allow a day to pass without coming in to cheer her. The heart of Mr. Riis was touched, and the next day he gave them more flowers to take to the old lady. Finally there came a morning when the boys were not at their usual post. Had they forgotten all about the poor old lady? But just as these thoughts flew through his mind, he looked up the dark alley and saw a coffin carried out by three men, and just behind them came the two little newsboys with sad little tear-stained faces. As the coffin was placed in the hearse, the boys took off their caps, and shouted, "Three cheers for the old lady!" You see, they wanted to show their sympathy in some way, but they did not know just how to express it.

The "three cheers" winged their way heavenward, and we are confident that they were heard by the spirit of the old lady, and understood.

E. M. F.

The Scolding Habit

THERE was a little book written by somebody not long ago, which, on account of the many wise, loving sentiments it contained, was to be found in nearly every home. It had a way of entering little wedges of thought which kept you thinking and pondering long after you had finished the reading. Every one who read the sermon it contained—for it was only a sermon, after all—will remember this sentiment: "Bad temper is the vice of the virtuous." That sentence alone was worth the price of admission to the book. It was an attack on a vulnerable point. Every woman who read it at once said to herself, "I believe that means me."

Scolding is a mild form of bad temper. It is often a safety-valve for nervousness. To say the least, it is a very disagreeable, highly odious and wholly unnecessary habit which a great many women, and men, too, possess and cultivate by constant practice, with or without cause. The woman who scolds doubtless has a grievance. But her grievance doesn't begin to assume the proportions of the grievance of the one who is scolded.

Who cannot remember being scolded when a child? Who can testify to the good it did? There is a difference between a reprimand in sternly earnest words and a tongue-lashing. Children appreciate the difference, and according to the value of words do they estimate the worth of the sentiments, and respect the authority. Scolding as a habit is superinduced by overwrought nerves and a weariness which has only strength to cry out. It is a miserable acknowledgment that self-respect is at low ebb. "Mama doesn't scold us when she is dressed up," was the way one discerning child expressed it. It may be that good clothes are a specific for this disease.

Here is a story about a woman who scolded, and who has lived to feel sorry that she did. She scolded about trifling things. There was a little boy of seven years in her family whose business it was to prepare the kindling-wood. Sometimes he forgot to prepare it. Seven years isn't a great while to live in the world, and sometimes people who have lived seven times seven years forget things. The woman who scolded has now a closed door in her heart, and when she opens it she hears the voice of a dying child pleading in delirium, "Don't—scold me, mama dear. I forgot the kindling. But I'll get it—now—and—please—don't—scold me!" The words have burned into her soul. She hasn't scolded any one in years. There is no one to scold. HARVOT H. DEY.

Murillo.

"The Immaculate Conception"

This well-known painting, the most celebrated of Murillo's conceptions, hangs in the Louvre Gallery in Paris. It was painted in 1678 for the Church of the Venerables in Seville. Although this subject has been treated by many of the world's famous masters, Murillo is preeminently the "Painter of the Conception."

What is Success?

A FEW days ago a man on trial for a crime was being questioned by the prosecutor concerning some of his business deals. In relation to one transaction in particular he was asked if it had been a success, and he replied:

"No, not in a money way; but money is not success."

"Will you tell us, then, what is success?" continued the attorney.

"Well, to be satisfied and contented is pretty near success," the prisoner answered.

A little story was told me the other day, and the sequel seemed to fit in perfectly with the answer of the prisoner, that success depends upon being satisfied and contented with life and with the world.

A young man while a clerk in a broker's office in Wall Street married his employer's private secretary. She had been with him from a girl of sixteen, had grown to be his "right-hand man," and he could not spare her, so he doubled the salary of both, and they remained with him. In this way they were separated but very little in all the twenty-four hours, and they were just as happy as two hearts made one could possibly be. Their savings were hoarded, and soon they bought a farm, and it was constantly their dream to one day go there to live, ending their days in peace and quiet together.

Business prospered and his employer made him a full partner. Then there was a new secretary; the little wife was needed at home to care for the bright-faced little girl that had come to live with them.

Still business prospered and his time was very closely occupied with many details, and at home he was preoccupied; the wife was much alone, the days were long, their life was not what it had been, a cloud of discontent was spreading a mantle over her happiness. But they were growing rich, very rich.

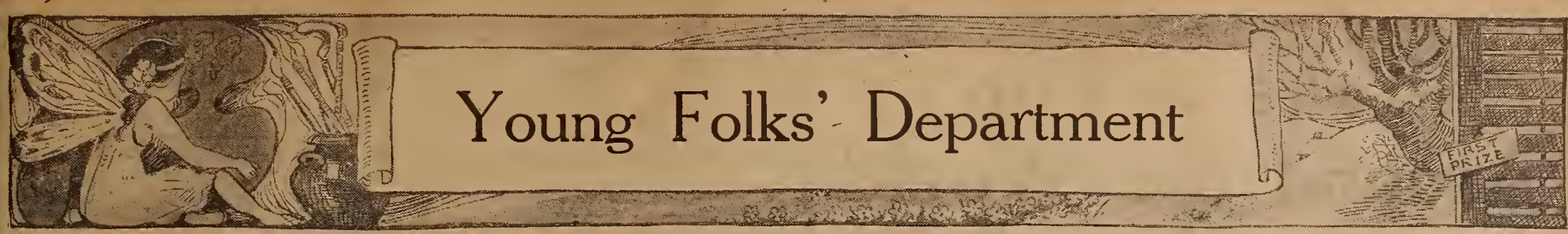
He would come home at night flushed with success over some deal in which he had made another million down in Wall Street, but the news of his triumph in the market did not bring back to the dull eyes the smile that had faded from her face. The years as they passed dragged heavily. He spent his energy endeavoring to make some grand *coup* in speculation that would win many millions in a day. Then he would go proudly home and tell her, and she would smile for him again; surely she could not help but smile then.

He finally put through a deal that was a master-stroke; he had sold the market and won millions, broke banks and made millionaires paupers, swallowed up the savings of widows and laborers, wrecked palatial homes and started a panic that sent thousands weeping home that night; but his end was gained—she would surely smile for him that night. He told her, and she wept bitterly, instead—wept for the misery he had wrought to others.

His dream was done. He aged in a night. He went to business the next day an old man. He plunged recklessly in stocks, and finally the day came when he staked and lost all. It was a bitter blow; it was ruin for him; yet he must tell her—that would be the bitterest hour of it all.

With bowed head and quivering lips he told her the whole pitiful story; and oh, how it hurt! It was finished; he faced the window; he could not meet her reproachful gaze. Gently a soft arm was laid about his neck; she turned his head toward her, and slowly he looked into her face—and she was smiling.

"Darling, it was money I could never make myself feel was honestly ours, and the poor have regained what they lost. You have lost, but I have won—won back my old sweetheart—and now we will live again as in the dear old days. Our dream at last may be realized; we will go out to the farm, and with plenty for our needs we will live there contented and happy—and that is success enough for me." JESSIE B.



The Trials of the School-Girl Fairy

By Crittenden Marriott

THE school-girl fairy felt very sad. Indeed, if she had not naturally been one of the sunniest and most hopeful fairies in the world, she would have been heartbroken. The prospect of being turned back on the very eve of graduation was enough to make even a fairy heart-sick.

She had been going to school for years and years—ever since she had been a little baby fairy—and all the time she had been looking forward to the time when she could put her hair up and go to the moonlight balls in the fairy ring and dance and dance and dance. And now almost at the very last moment she faced the prospect of failing in her painting examination, and being obliged to stay at school at least a year longer.

It was not that she was idle. There was not another fairy in all her class that tried as hard as she did. But try as she might, the paints would not come right. She simply had no eye for color; and to have no eye for color is a very sad thing for a fairy.

Fairies are not like human beings, and of course they do not learn the same things in their schools. Their chief duties are to keep the world sweet and clean and beautiful, and all their studies lead to that end. After they have gone through kindergarten and have learned to love everybody and everything, to keep their temper under all circumstances, and to take pleasure in beauty and brightness and sparkle, they go into the primary grade and are taught to wash the air, lay the dust, hide unsightly things, and generally sweeten and purify the world. Next they learn to paint the sunsets, hang the grass with glittering drops of dew, polish the grains of sand, color the autumn leaves, burnish the butterflies' wings, care for the flowers, and do the thousand and one things that make the world beautiful.

Freya did very well at everything except painting, and that she could not do at all. Her best efforts produced the most awful discords. The only sunset she was ever allowed to attempt was such a terrible mixture of reds and greens and purples that human beings were frightened almost to death, thinking that it meant that the end of the world was coming, and never dreaming that it was only poor Freya's idea of beauty. After that her teacher dared not let her paint the clouds any more, and made her confine her efforts to flowers and butterflies' wings and autumn leaves. But whatever she tried, the result was the same—she would blend red with pink, and blue with purple, and green with red in the most appalling fashion, until at last her teacher had to tell her that she would surely fail on her final color examination and would not be allowed to go to the graduating ball.

Poor Freya felt so very badly about this that she could not bear to talk to any one. She slipped away from the other fairies and flew down to a favorite nook of hers where the brook splashed down over a tiny waterfall, and sat there huddled up in a pile, as miserable a little fairy as there was in all the world. Probably she would have been sitting there yet if the fairy Heart's-ease had not sought her out and made her talk.

"Soon she found herself pouring all her troubles into the older fairy's loving breast"

At first Freya was not pleased to have any one question her, but she could not resist Heart's-ease for long (no one could), and soon she found herself pouring all her troubles into the older fairy's loving breast, and was surprised to find that the mere telling made them seem lighter.

"It's bad enough not to go to the ball," she sobbed, "but it's worse to think that I shall never be of any use in the world. I do so want to help make things beautiful and I can't do it. Things that the other girls rave over don't look a bit pretty to me. I don't know beauty when I see it, and a fairy that doesn't recognize beauty is good for nothing. It makes me feel so hopeless."

Heart's-ease smiled—a wonderful smile that made things seem brighter right away; then she asked poor Freya a question that seemed to have nothing at all to do with the case.

"You like the waterfall on the brook here very much, don't you?" she asked. "Can you tell me just what you like about it?"

Freya looked at the elder fairy with eyes round with amazement. "Like about it!" she echoed. "I like everything about it—the cool splash and tinkle of the clear water, the sparkle of the sun on the pebbly sand, the gleam of the white foam as it tumbles over the black rocks. I think a waterfall is the most beautiful thing in all the world. Don't you?"

Heart's-ease clapped her hands. "I knew it!" she cried softly. "I knew it! Listen, my dear. You are not blind to beauty. You are only blind to color. You can paint as well as any of us, but your brushes must be dipped in black and white and tipped with fire. Try it and you will see! When your time comes at the examination, build a picture with snow and ice and fire—such a picture as only you can paint. My word for it, you will astonish us all and enrich the world with something it has never seen before. Try! You can do it, I'm sure."

Freya started up, wild with excitement. "Yes," she cried, "I can! I know I can! I always wanted to paint in black and white, but everybody admired color so much—"

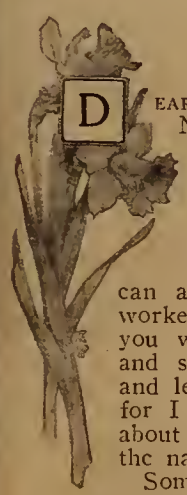
"Color isn't everything, my dear, though we fairies often think it is. I've never seen a picture such as the one you will paint for us, but I know it will be fine. Try! Try!"

Freya tried! At midnight the day before her turn at the examination she summoned the snow fairies, and they showered down soft damp crystals that clung to the bare branches of the trees, tufted the fences and crowned each individual stone and blade of grass. A little later she called up the south wind, and beneath his caresses the snow began to melt and drip, drip, drip. Then she summoned the north wind, and when he came with icy breath she bade him freeze the half-melted snow where it hung, and then blow away the clouds and let the big round moon glimmer down.

Dawn came and the sun sprang up. His rays, piercing the clear air, glittered on a world hung with icy beads, white and clear as crystal, making them glow and flash and sparkle and burn with iridescent fire. Then the wind came murmuring over plain and woodland, and at his touch—lo! a miracle—the silvery whiteness changed, trembing into myriad rainbows of prismatic fire, shifting from blue to red, from red to gold, from gold to green, and back again to blue in iridescent, coruscating splendor, intoxicating, bewildering, intolerably magnificent. Freya had painted her picture with ice and fire, and, all unknowing, had found in it the supremest splendors of color.

That night star-eyed Freya, in a gown of purest white, with a firefly pulsing and flashing in her dark hair, was crowned queen of all her class, and in her heart she thanked the fairy Heart's-ease. Later, she danced in the fairy ring until the dawn came creeping out of the east and the still glory of the moon faded into the light of day.

Cousin Sally Tells the Story of Narcissus



DEAR BOYS AND GIRLS:—

Now that these fine, warm spring days are here, I can picture each one of you hard at work in your little garden, watering and caring for those pretty flowers of yours, and I can appreciate just what busy workers you are. But I know you will put aside your spade and shovel for a few minutes and let me come in, won't you, for I want to tell you a story about the dear little white flower, the narcissus.

Somehow, when spring comes, our first thoughts are about the flowers. How we do love to plant them and tend them from day to day. And it is because I know you are fond of flowers that I am going to tell you the story of the narcissus. So come one and all, and listen to the fascinating story Cousin Sally is going to tell you.

Narcissus was a very beautiful youth. Indeed, he was so lovely that all of the little wood-nymphs idolized him, but to all of them he paid no attention, but pursued his favorite sport—hunting. There was one maiden in particular, who, failing to gain his admiration, prayed that the day would come when he would love some fair creature who would care nothing for him. The avenging goddess heard her prayer and granted it, as you shall soon learn.

Now it happened that Narcissus, while hunting one day in the forest, came to a clear, sparkling fountain, and being very tired and thirsty after his day's sport, sat down to rest. Stooping to drink, he saw his image in the water. He thought it was some beautiful water-spirit living in the fountain. Never before had he seen such a wonderful face. The eyes were large and bright, the neck white as snow, the cheeks well rounded and rosy, and he stood gazing at it in admiration. Indeed, the image was so beautiful and lovely that Narcissus fell in love with it. He stretched out his arms, but it fled at his touch, returning again after a moment, only to fascinate Narcissus the more. He would not leave the fountain, but remained there for days and days, forgetting all about food or rest. Finally he spoke to the supposed spirit.

"Why, beautiful being, do you shun me? Surely my face is not one to repel you. The nymphs love me, and you yourself look not indifferently upon me. When I stretch forth my arms, you do the same; and you smile upon me and answer my beckonings with the like."

Narcissus wept bitter tears, and as they fell into the water they disturbed the image. He thought the beautiful spirit was leaving, and in anguish he cried:

"Stay, I beg of you!"

Many days passed, but still Narcissus stayed with the image, and each day he grew weaker and weaker. He lost his color, his figure and beauty, which had so charmed the wood-nymphs, and finally he pined away and died.

When the nymphs heard it they mourned for him. They prepared a funeral pile, but when they went to look for his body, it was no where to be found, but in its place there was a pure little white flower, which bears the name and perpetuates the memory of Narcissus.

I do love all of these stories from Greek mythology, and I am sure you do, too, if you love fairy-tales. I do not think I shall ever grow too old to enjoy a good fairy-tale. Louisa Alcott is a great favorite of mine, and I love her "Flower Fables." If there are any of you who have not read this charming book, you have a great treat stored up for you.

Please don't feel hurt because I haven't answered each one of your letters personally. I appreciate them just the same. But there are days when I receive as many as a hundred letters, so you know just what a busy person your Cousin Sally is. With a great deal of love,

Always faithfully,

COUSIN SALLY.

Honor Roll

Earl Leftwich, age thirteen. Irene Charest, age fourteen. Chester Brooks, age twelve. Julia M. Church, age eleven. Clarence V. Pursell, age fourteen. May Sherden, age eleven. Loran Wilford, age sixteen. Catherine Brindle, age ten. Mae Ruggles, age eleven. Mary S. Alexander, age thirteen. Iva May English, age thirteen. Clarence Werner, age eleven. Loyd Schlamer, age twelve. Lilly Anderson, age thirteen. Clifford Wagner, age seven. Edith Anderson. Ethel Vaughan. Emma Petersen. Lillian Miller. Barbara Gruneisen.

Prize Winners

HERE are the names of the boys and girls who were successful in the March 10th contest:

Myrta Widmoyer, age ten, Emerado, North Dakota. Virgil Gilmore, age eight, Kinsman, Ohio. Bessie I. Miller, age thirteen, Dodgeville, Ohio. Gertrude Marsh, age ten, Winsted, Connecticut. Ione M. Rehm, age fourteen, Meriden, Connecticut. Jessie Moore, age fifteen, Hammondsville, Ohio. Ruth Eldridge, age thirteen, Des Moines, Iowa. Clifford Thompson, age fifteen, Quitman, Missouri.

The Post-Card Exchange

Olney Thompson, age fifteen, R. F. D. 3, Latty, Ohio. Pleasant D. Heron, age sixteen, R. R. 4, Columbia City, Indiana. Emma Forister, age fourteen, R. F. D. 5, Box 14, Madisonville, Kentucky. Oliver Ross, age twelve, Butte City, California. Leslie L. Hall, age fourteen, Fairview, Guernsey County, Ohio. Regina E. Bigler, age fifteen, R. R. 3, Cobden, Illinois. Lillie I. Kiner, age thirteen, R. F. D. 1, Wilbur, Washington. Glessner Korn, age fifteen, R. 3, Box 69, Bluffton, Indiana. Arthur Aby, age fifteen, R. F. D. 1, Sciota, Illinois. Lillie Fosbrink, age fifteen, Vallonia, Indiana. Addie G. Lower, age seventeen, R. F. D. 33, Barberton, Ohio. Cass M. Williams, age fifteen, Chemung, New York. Irene Fouts, age twelve, Stockport, Morgan County, Ohio. Louise Clark, age thirteen, R. F. D. 1, Dallas Center, Iowa. Sophia Schriefer, age twelve, R. F. D. 2, Hicksville, New York. Edna Cooper, age fourteen, Philadelphia, New York.

Take a Trip Around the World at Our Expense

You will get fifty post-cards in color, all different.

Six of the pictures. There are forty-four more, each one on a handsome post-card.

FARM AND FIRESIDE will present you, free of charge, with a magnificent collection of fifty post-cards from all over the world. Every one of these beautiful post-cards contains a photographic picture of some world-famous scene, and is printed in many colors. Many of these views are very rare.

Our "Trip Around the World" collection of fifty cards constitutes one of the greatest assemblages of post-cards that has ever been brought together. On every card is reproduced in many colors an actual photograph of some world-famous scene. It would cost you thousands of dollars to collect for yourself all these photographs of famous cities and buildings and places from all over the world.

The World's Most Famous Scenes

Our "Trip Around the World" takes you to Blarney Castle in Ireland, where you can kiss the Blarney stone; and over to Edinburgh, Scotland, the greatest of Scotch cities. You will see the Old Gateway at Manila and the Famous Eden Garden in India. Castles on the Rhine, the canals in Holland, Monte Carlo, China, Japan, India, Egypt—all these and many more wonderful places are shown in this superb collection of high-art post-cards. Remember that there are fifty cards, that every card is different, that every card contains a picture in many colors made from an actual photograph of some famous scene—and that you can get them all without one cent of cost.

Here They Are

1. Bengali Girls in Eden Garden, Calcutta, India.
2. Blarney Castle, Ireland.
3. Rock Temple at Abu Simbel, Egypt.
4. Old Gateway, Manila, P. I.
5. Cologne Cathedral, Germany.
6. Princess Street, Edinburgh, Scotland.
7. Arch of Triumph, Paris, France.
8. Street Scene, Copenhagen, Denmark.
9. Notre Dame Cathedral, Paris, France.
10. Fountain at Leiria, Portugal.
11. Gallery of Battles, Palace of Versailles, France.
12. Bull-Fight, Valencia, Spain.
13. General View, Lisbon, Portugal.
14. Culebra Cut, Panama.
15. Morro Castle, Havana, Cuba.
16. Colon, Panama.
17. Christiana, Showing Royal Palace, Norway.
18. Nankin Road, Shanghai, China.
19. Central Park, New York City.
20. Sheepshead Bay, Brooklyn, N. Y.
21. Wall Street and Trinity Church, New York City.
22. Brooklyn Bridge, N. Y.
23. Lafayette Square, Buffalo, N. Y.
24. Home of the Buffalo Historical Society, Buffalo, N.Y.
25. Horseshoe Falls, Niagara, N. Y.
26. Winter Scene in Quebec, Canada.
27. Palmetto Avenue, Los Angeles, Cal.
28. Harvesting in the Great Wheat-Fields of Manitoba, Canada.
29. Big Tree, California.
30. Hot Springs, Yellowstone National Park.
31. Royal Gorge, Colorado.
32. Reservoir Park, Campton Heights, St. Louis, Mo.
33. State Capitol, Indianapolis, Ind.
34. Stock-Yards, Chicago, Ill.
35. Japanese Tea-House, Kioto.
36. General View of Monte Carlo.
37. Canal, Amsterdam, Holland.
38. Castle on the Rhine, Germany.
39. Falls of the Rhine, Switzerland.
40. Boats of the Nile, Egypt.
41. The Casino, Monte Carlo.
42. Harbor of Hong-Kong, China.
43. General View of Canton, China.
44. Across the Lake from Island, Peking, China.
45. Street Scene, Tokio, Japan.
46. Over Battlefields, Liaoyang, Manchuria.
47. San Nichola, Cebu, P. I.
48. Lincoln Park, Chicago.
49. Japanese Tea-House, Tokio, Japan.
50. Imperial Mausoleum, Mukden, Manchuria.

A Beautiful Art-Gallery

In addition to the fifty different pictures of noted scenes and places, you will receive a description of every scene that is pictured on the fifty cards. The fifty cards form not only a beautiful art-gallery, but also furnish a liberal education, describing and picturing the fifty most famous places in the world.

The cards can be preserved, either in the attractive blue-and-gold carton in which we will ship them to you, or in an album or scrap-book; or you can send them to your friends through the mail. Every card is a regulation post-card, and contains plenty of room for writing. A single one of the handsome colored high-art post-cards will make a fine gift to send to a friend, but you will get fifty cards all different, from FARM AND FIRESIDE, free of cost.

How to Get the Cards

Send us two subscriptions to FARM AND FIRESIDE, and we will send you the collection of fifty "Trip Around the World" post-cards, **Free of Charge,** packed in an attractive blue-and-gold carton, postage prepaid by FARM AND FIRESIDE. One of the subscriptions may be your own. The subscriptions may either be new or renewal. Each of the two subscriptions may be for one year at 35 cents, or for two years at 50 cents. Get two subscriptions right away, and you will receive the fifty beautiful post-cards free.

FARM AND FIRESIDE, Springfield, Ohio

The Soul of Honour

[CONTINUED FROM PAGE 21]

he been so profoundly astonished, so utterly dismayed; then he rallied, for his entire innocence and his honest motives upheld him.

"I don't understand you," he said calmly. "You are either laboring under a delusion or you have been totally and entirely misinformed. May I ask what it is?"

"I have been informed, Taunton, not misinformed," said Vannister, controlling himself with difficulty. "And my informant is one who was your friend and who spoke only because I almost forced him to do so. He has not asked me to keep secret his name; so I can tell it to you."

"You need not," said Jack with a cold smile, "for your riddle, my dear Vannister, is childishly easy to read. Pray, what has your friend Quinten been good enough to impart to you."

"He has told me," said Vannister with a deep feeling which lent a simple earnestness to his words, "that you were the hero of a certain sad story which Lady Vannister told me when I asked her to be my wife."

"He told you that?"

"He did."

"And you believe it?"

"I do."

"Absolutely and finally?"

"Absolutely," said Vannister, adding, with a white heat of rage which would crop up in spite of his efforts at self-control, "so you need not prepare any lies."

"I will answer you neither with truth nor lies," said Taunton. "I will leave your house."

"I thank you. It saves me the trouble of turning you out."

Taunton looked around the room hurriedly.

"My luggage can follow me," he said. "I will give my man his orders." He paused and fixed a keen level look on the tall figure and sad, earnest face.

"You are being deceived. Lord Vannister, grossly taken in by a man whose object is not only to keep you and your wife apart, but who had another purpose, one which I shouldn't like to tell you of. You saw something of it to-day, and I fear very much that you may see more, for you are sending away the only man who can help both you and her."

With that he turned and walked to the window, as though he had done with the conversation. Nor did he turn around again until he heard the door close, and knew that he was alone.

Then, sitting down at the table, he wrote two letters—one to Honour, which was worded thus:

I was right and you were wrong. Quinten is a thoroughgoing villain. He attempted your life to-day, and now he has accused me to your husband of being the man who deceived you with a false marriage. Vannister has turned me out of the house, but I shall only appear to go. In reality I shall be near at hand watching over you. Delay explanations with your husband on the score of your illness, and wait a day or two, but be careful in the meantime, be very careful. The man means mischief.

He rang the bell, which was immediately answered by his man-servant.

"James," he said, "are you acquainted with Lady Vannister's maid?"

"I am, sir, in a manner of speaking," answered the man, surprised.

"Is she to be trusted? I mean is she a talker," questioned Taunton.

"No, sir, very quiet and reserved. Keeps herself to herself."

"Good. Then now you just go and bring that trustworthy person here right away."

James was accustomed to his master's sudden and abrupt orders. He disappeared without an unnecessary word, and while he was gone, Jack wrote his second letter, which he prepared for post and addressed to Miss Sarah Gibson. It was brief and very much to the point, and he inclosed a check before closing the envelope.

This concluded, he looked up and saw that Honour's maid, an elderly female of prim appearance had entered the room. She had a quiet manner, but shifty-looking eyes. Jack was not prepossessed by her look, but there was no other medium through which he could approach her mistress.

"I want you to take this letter and to give it to your mistress when she is alone. You understand?"

"I do, sir."

The shifty eyes looked away from him as she spoke, and he laid the letter in her hand, and on it gleamed a sovereign.

"For you," he said, "if my instructions are fulfilled to the letter."

She took the coin and missive without another word, and left the room. The maid passed along the corridors leading to her mistress' room, and on turning toward the last one she drew back to let Mr. Quinten pass her. He paused, noting the handwriting of the letter she carried, and then his hand sought his pocket. She stopped also. Evidently it was to rain sovereigns to-day. But no, it was a crisp, crackling bank-note which saw the light a moment later.

"One moment," he said. "I have a word to add to that note you carry. Can I have it an instant?"

"It is closed, sir," she said quietly.

He laid the bank-note in her hand, and she, after an instant's pause and a furtive glance around her, laid down the letter in his hand.

"Wait," he said, and stepped back into his room, and for a few moments an intense silence reigned in the passage, broken only by the beating of a guilty heart.

Then he reappeared, handed her the message, looking to all intents and purposes the same, and nodded, pointing onward.

"Take it now," he said, "and you understand, silence."

Five minutes later Honour opened and read what Jack had written; read also a postscript in the same bold hand.

I must see you to-morrow. Meet me at the back of White's Farm at three o'clock. You are well enough to come, I know. Anyhow, try to slip out. It is a matter of life and death. J. T.

Honour lay back among her pillows, pondering. Yes, she must try and see Jack if it were in any way possible to do so, for she felt she must find out what this terrible new development of events signified.

Jack accused of Marcus' bygone crime, Jack the true, honest, loyal gentleman. It was unthinkable, impossible. The whole situation had become to her a maze of terror, an *impasse* where any step she took might land her in a quagmire, and the bitterest part of it was that Guy, her lover, her husband, left her in her loneliness, and discussed the story of her life with others.

No wonder he had turned to others. The vital question which everything turned on, was it yet too late? Too late to make herself believed, too late to tell all. She stretched out her hand to the bell, then drew it back and picked up the letter which lay on the satin coverlet. "Delay explanations with your husband."

So counseled that letter, and this time she would obey the counselor, who she knew was working for her. Matters had gone too far for words. Proofs were what was needed now. Jack was right; she would wait.

Her thoughts turned to the appointment in the postscript. It would not be so difficult to manage as it would have been had Vannister been constantly with her, but his avoidance made it easy.

The night passed in uneasy dreams and dreadful loneliness, then the day came, and in her heart she vowed that she would act. Stepping softly, she crossed the room, slipped down the stairs, then crossed the landing on tiptoe, and finally left the shadow of the house. That was rather a terrible moment, for peeping, unseen eyes might be watching her movements. Each step farther brought an added relief, although the whole walk through the park was alarming.

Her many walks with Guy had taught her the way to all the neighboring farms, and she knew the road to White's, although she had been there but once, and was not well up in the locality; but presently the farm itself came into view, and making a wide circuit, she reached the back of the buildings and climbed the ridge of down behind them. Here walking was difficult, for the ground was uneven, but she climbed the hill until she reached the top. Here she was plainly visible, and if there also, Jack could not miss her. She glanced around to the other side where it sloped steeply down. There was no one there, but suddenly from a belt of trees on her right a figure stepped out, and she started forward with a cry of relief; then a low shriek escaped her, as raising her eyes, she saw Marcus.

"You—you," she gasped. "Why, it's some mistake."

"Yes," he said smiling, and something in his smile made her look wildly around, as if for help. "It is a little mistake, isn't it? You came to meet that preux

chevalier Taunton, and you find—me. I am sorry for your disappointment."

"How did you know?" she whispered, drawing back from him in fear, as he clutched her arm not too gently.

"A little bird whispered it," he said gibingly.

"That's a lie," she said. "You—you—must have stolen my letter. Oh, what have I done."

His arm seizing her uninjured one moved her onward.

"Come," he said. "Don't make a scene. You have come to have a little walk and talk with the man you once swore you adored. What is there to shriek about in that?"

"Liar! Traitor! Coward!" she said. "Let me go."

"Call away," he mocked. "No one will hear. They are in the harvest-fields, half a mile away, and you, you know, are in bed and asleep at Gartlands. Come, I'm going to have a little walk with you."

She stood firm, refusing to stir, and Quinten, laughing at her fruitless resistance, began to push her backward by the shoulders.

"A curious way to take a walk, my lady," he said jeeringly, as she resisted step by step, "but if you prefer it, I've no objection."

She looked up once, met the red light of murder in his eyes, and shrieked again and again. Quinten pressed one hand over her mouth and with the other still pushed her backward.

Too late she saw there was a method in his madness. Too late she tried to see what lay behind her, while she voiced a prayer for help—for help. Oh, mercy! mercy! the ground was giving way. She caught at those cruel hands; they flung her off savagely, tearing away her desperate fingers as she fell backward into space.

Time was annihilated; she seemed to be floating in atmosphere, a soulless, disembodied thing. All was over now, the pain, the longing, the fever and the fret of life. A blessed rest invaded her spirit; she seemed cradled in love, lapped in peace. Ah, death was kind. Let the long hours of unconsciousness last, let them only last, let her not be wakened. But what was this, a voice calling to her through space, through that spirit world where her soul was straying contentedly. It pierced the clouds like an arrow and caught her flying spirit and chained it back to earth.

"Honour! Honour! Honour."

Yes, she must listen, for was it not his voice, the voice of her twin soul, her other self, her beloved? Earth called to her with his voice, which had in it a love and longing powerful enough to drive away the mists. Slowly death receded. Life came back. Voices sounded in her ears. Lights flashed before her eyes.

Consciousness returned.

She found herself lying at the foot of some great pit (afterward she knew it to have been a disused quarry), supported in Vannister's arms, and with his voice murmuring passionately in her ears.

"It is all right, Honour. My loved one, my one and only treasure, lift up your head. All the clouds are gone. Come back into the sunshine."

"She hardly understands, poor girl," said another voice, Jack Taunton's.

"You speak to her," said Vannister, and she heard with faint pleasure the kindness in his tones.

"You remember coming out, Honour?" said Jack, bending over her. "Well, he, Marcus, got you out by a trick. He pushed you over this precipice and left you here, and here you might have lain for days; but I was on the watch. I suspected that maid of yours, and she confessed that she had tampered with the letter; she found it in your room and brought it to me just outside the house a quarter of an hour after you left it. She had got frightened, and in finding you gone was glad enough to make a clean breast of it. I followed you here, and on the way I met your husband, and thank God he believed me enough to come with me. Your friend Sarah Gibson arrived an hour ago with all the letters that would prove my case and his, but Vannister says he doesn't want to see them now."

"No, darling," whispered her husband, "try to forgive me, because I came to understand, even though late, that your secrets could only be as noble as you are. No, don't speak of Marcus. Let us forget he ever lived. Let me take you home, and let us make Jack and Hyacinth happy. It will please you to watch their joy, I know."

It seemed like some wonderful dream to Honour, as weak, yet unhurt, she clung to Vannister's arm.

Her mind bewildered with great problems turned with relief to a smaller matter.

"Will Lady Windermere consent?" she said. Jack chuckled.

"I've told her that I'm the owner of the Great Levana Mine," he said, "and that makes a powerful difference. Oh, we shall be happy enough soon!"

Vannister drew her closer.

"They can't be as happy as I am going to make you," he whispered.

THE END

Picture-Puzzles

A New Fad for Grown Folks

Two years ago the craze for picture-puzzles started in Boston, but it is only within the past few months that it has made itself felt in other cities.

The puzzles consist of tiny pieces of wood cut with jig-saws, which, when properly put together, form pictures of considerable beauty. Some of the puzzles are so complicated and so difficult to put together that it takes days to accomplish the task.

These puzzles are only intended for grown folks; indeed, they are especially interesting to brain-workers—men and women who desire a change of thought and really need something of this description to hold their attention. Busy men find relaxation, after the strain of many hours of brain-work, in joining the tiny pieces of these puzzles. Women who have tired of embroidery turn to puzzle-pictures as a new source of interest and pleasure.

The puzzles are made in increasing grades of difficulty. Some contain two hundred and three hundred pieces and may be put together in a few hours, while others consist of from twelve hundred to fifteen hundred pieces, and it frequently takes all of one's leisure time for a week to put these exasperating little fragments together.

The pieces are sawed in such a way as to afford not the slightest clue to the place where they belong in the picture, so it is easy to understand the amount of time and patience required in joining them correctly.

In addition to the regular colored pictures that are cut up for these puzzles, there are "Marquetry Puzzles," which are made of colored wood. Among the woods used are walnut, mahogany, boxwood, maple, poplar and birch.

Originally these were designed for panels used in decorating cabins of yachts, but now they are cut in smaller pieces and used for puzzles instead.

Special wooden trays are manufactured for puzzle-workers. They are raised on the edges, and that keeps the little pieces of the puzzle from falling. Should one tiny piece be lost, the entire puzzle would be ruined.

Puzzles

No. 1—Square Word

1. An animal.
2. A mountain range.
3. A great crowd.
4. Besides.

No. 2—Square Word

1. A boy's name.
2. A distance.
3. Misfortunes.
4. Smaller.

No. 3—Square Word

1. Last name of a great man.
2. Open space.
3. Dread.
4. Sailors.

No. 4—Anagram

Petgy—Name of an old country.
Blayan—Name of a capital city.
Noxyas—Name of a foreign country.
Lotdoe—Name of an Ohio city.
Raleim—Name of a New York city.
Nuroe—Name of a foreign city.

When rightly guessed, the first letters of the anagram will spell the name of a great church festival.

Beheadings

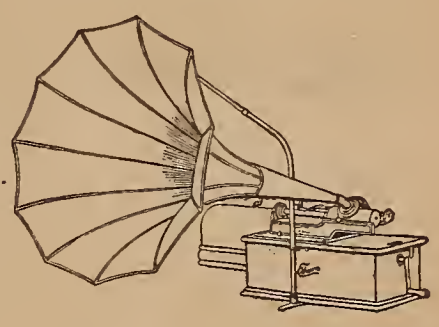
No. 5—Behead a word meaning bundles of cut grain, and leave a word meaning throws. Behead latter, and leave a word meaning the edges of a roof. Behead latter, and leave a word meaning prayers.

No. 6—Behead a word meaning to comprehend, and leave a word meaning a coarse file. Behead latter, and leave a snake.

No. 7—Enigma

My *first* is in mast, but not in mist,
My *second* is in face, but not in wrist;
My *third* is in race, but not in clime,
My *fourth* is in time, but not in rhyme;
My *fifth* is in color, but not in sky,
My *sixth* is in fear, but not in shy.
My WHOLE is a land far distant away,
Where elephants live and little lions play.

The next time you go to the city will you stop at a store where Edison goods are sold and hear an Edison Phonograph?



If you do you will be entertained — better entertained than you have any idea of.

Better entertained than you have been at many theatres or concert halls, for the reason that here you may choose your entertainment rather than accept what has been arranged.

If you like opera selections, a star whose name is familiar to you will sing. If you prefer band or orchestra music, you can choose not only the band or orchestra from a number of celebrated aggregations, but also the music you wish to hear played.

If you like the popular music of the day — the song hits from the latest musical comedies — the singers who made those hits are there to do their best for you. Or, if you are in the mood for a good story the country's cleverest comedians will liven up the program with their fun.

When you hear

The EDISON PHONOGRAPH

you will be impressed with a number of things.

First, that the Edison Phonograph is a wonderful entertainer; the most wonderful of the age.

Second, that what you have heard is not an imitation of something better but a reproduction of all that is best in music and songs; the actual voices of famous singers and the actual notes of celebrated bands and orchestras.

Third, that you can, for a small amount of money, transfer this all-star company to your home and witness performance after performance, each one differing from the others and all of the highest order.

Farm life should not be all work; neither should rest time become monotonous. You, perhaps, come to the city frequently, but the wife and the children do not have that advantage. They miss much in the way of diversion that you enjoy.

Wouldn't they welcome the Edison Phonograph with its new songs, good stories and bright music!

The farm with an Edison Phonograph is not isolated, because it is in touch with the one great thing that keeps a farm from becoming so, and that is clean, wholesome, fascinating entertainment.

Remember this the next time you are in the city. The Edison dealer will be pleased to demonstrate and explain the Edison Phonograph.

NATIONAL PHONOGRAPH COMPANY, - 151 Lakeside Avenue, Orange, N. J.

Farm Notes

Clover-Sickness

It is a fact well known to agriculturists that if the soil is yearly cropped without receiving a supply of manure it becomes incapable of producing uniformly heavy crops. The infertility arising from such a course is, indeed, akin to the poverty of life that inevitably follows the principle of allowing expenditure to be greater than the income. In other words, although the soil may at first produce a good and profitable crop by virtue of the plant-food it contains, yet if a constant drain is made on it the expenditure of its fertilizing elements will be such as to produce crops that are far from being profitable.

Strange, however, is the behavior of Mother Earth after a crop of red clover. Every farmer knows that the soil, instead of being poorer after the removal of such a crop, is peculiarly well fitted for the growth of cereals and roots in the following year, even without the addition of manure.

It will be seen, therefore, that red clover plays an exceedingly important part in the ordinary farm rotation. The farmer, however, frequently finds that red-clover crops fail him, thus causing great pecuniary loss. At such times the red-clover plant shows an abnormal growth in the thickness of some of its parts, while at the same time considerable diminution in the growth in length appears. Sooner or later also the green color of the plant gives place to a white deformed appearance, with the result that rapid death is generally the result. This condition is aptly named "clover-sickness," and probably the chief cause of this destruction is the presence of small "eel worms" in the stems and shoots of the plant.

It is of very great importance indeed that the farmer should know of some means whereby he can enable the clover-plant to overcome the harmful effects of the "eel worm." A practical method of so helping the plant against its enemy would be to supply it with an amount of nourishment sufficient to withstand the inroads of the parasite, if indeed the "sickness" is caused by the "eel worm," for sometimes it is caused by the exhaustion of necessary plant-food from the soil. One of the most convincing proofs of the result of such a treatment is seen in the case of an experiment carried out some years ago on a field infested by "eel worms." The report on the experiment in question states that three measured portions were taken, each of which contained many affected plants of clover, and the disease seemed to be spreading. To these manures were applied as top-dressings in the following manner: Plot No. 1, sulphate of iron, two hundredweight an acre; plot No. 2, sulphate of potash, three hundredweight, and sulphate of ammonia, one hundredweight an acre; plot No. 3, sulphate of iron, one hundredweight an acre.

About a month after the above applications were put on, the worst-affected parts of the field received one hundredweight of sulphate of iron, one hundredweight of sulphate of potash and one hundredweight of sulphate of ammonia, with a view to overlapping the diseased and healthy portions.

In less than a month it was found that the disease had been entirely overcome in plots 1 and 2, and the clover growing vigorously. Plot 2, however, showed to the greatest advantage, and gave ample proof of this by yielding the greatest produce an acre, no blanks being seen after cutting. Next to this came plot 1, while plot 3 showed itself less effectual in resisting the attacks than plot 1.

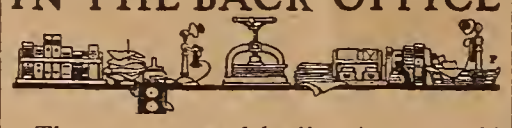
The whole experiment thus showed that sulphate of potash and sulphate of ammonia at the combined rate of four hundredweight an acre had the effect of entirely banishing the disease, and the clover advanced so well in growth that between the first application and the time of mowing not a blank was seen. But still more convincing of the effect of the application of three hundredweight of sulphate of potash together with one hundredweight of sulphate of ammonia is the fact that the beneficial effects were seen to have extended to the second crop of clover, the plants in plot 1, with the sulphate of iron, showing less luxuriance of growth, while in plot 3 some plants of clover died off even in the second crop.

Again, in another series of experiments it is reported that when a crop of clover failed, the general excuse was that the land was "clover-sick." But the crop did not always fail from this cause; clover might fail from want of potash. A plot manured with potash in the midst of a field not so manured showed a well-developed red square (red with blooms), indicating that there alone the clover had thriven. Potash was not used as often as it might be.

Indeed, all such experiments carefully carried out in the interests of the farmer go to show that the value of potash to the farmer cannot be too greatly emphasized. If applied in autumn, kainite gives the best results, but in spring, sulphate of potash applied as a top-dressing is the most effective form of supplying this fertilizer. Such manurial dressings are most effective in producing a remunerative crop, not only of red clover, but of beans and other leguminous crops, and they are of inestimable value in aiding the crops to overcome disease.

W. R. Gilbert.

IN THE BACK OFFICE



The most successful editor in the world with the most efficient staff of associates cannot produce, no matter what he spends, a really *serviceable* paper without the help of its readers.

Their opinions, their suggestions, their honest criticism, is what steers him on his course; is what tells him *he is right.*

We are paying a high price for the material that goes into Farm and Fireside—a higher price than has ever been paid before—but *we are spending it carefully,* as carefully as we know how, and trying to make every cent of it tell a practical story. We are seeking out the best authorities in each department and subject, whether it be Water-Power or Fruit-Growing; Dress Fashions or Cooking Recipes.

Now we cannot carry out this plan with maximum results unless you will tell us what you like and what you don't like, and what is helping you most.

Just remember this: We are publishing Farm and Fireside to please *you*, not to please ourselves; and it is only when it helps and pleases you that we are doing our work successfully.

If *there is not some one thing* in each issue of Farm and Fireside which is actually worth several times the yearly subscription price of the paper, then *we are not making good,* and you ought to tell us so.

Hundreds and hundreds of the Farm and Fireside family are writing us that we are making a great paper—the greatest farm paper ever published; some few are writing us their frank criticisms. We want more of this sort. What do *you* think?

TRADE B MARK Amatite ROOFING

AN EXPERIENCE
AT THE BELLE MEADE FARM

The Belle Meade Farm of Bedford, Mass., is well known for its thoroughgoing and scientific methods, and is a model in many respects. Its big stables are all covered with Amatite Roofing. The owners write us as follows:

"It is now nearly three years since we put your Amatite Roofing on our new 300 ft. buildings. This Roofing is now in its third winter and has gone through without a leak, and there is every indication that it will be good for many years. The buildings with this light, sparkling Roofing and the red trimmings as painted, are very attractive in appearance, and altogether we are much pleased with your Amatite Roofing. We are contemplating the construction of some further buildings for our Shetland Ponies, and mean to use more of your Roofing."

If the Belle Meade farm people had chosen a "smooth surfaced" roofing it would have cost them more in the beginning and the difference would have become greater every year. Those roofs were laid in 1905. In 1907 they would have required a thorough painting, which would have to be repeated in 1909, and every two years thereafter.

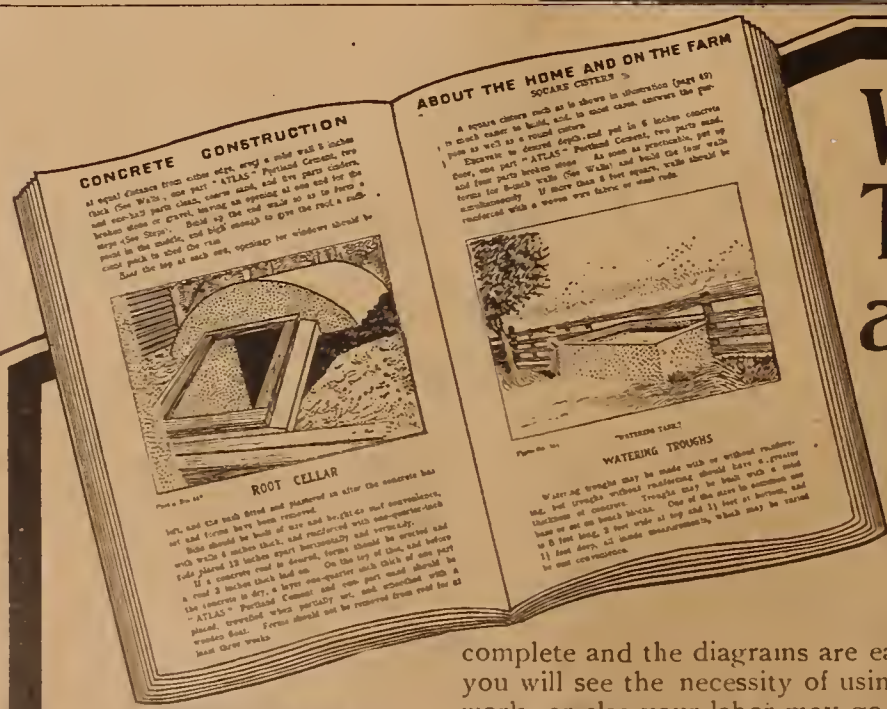
The Amatite, however, *has had no painting*, and needs none. The mineral surface takes care of that. When the roof finally wears out and the owners of the Belle Meade Farm compute the cost of their Amatite Roofing they will put down "for the Amatite, so many dollars," "for care of same, nothing." If they had used a painted roofing there would probably be several coats of paint to figure on, besides the original cost of the roofing, and the total would be several times as much as Amatite.

It does not matter whether your roofs be large or small, it is wasteful to use anything but Amatite.

Let us send you a free sample, together with a booklet telling more about Amatite. It will save you money later.

BARRETT MANUFACTURING COMPANY

New York, Cincinnati, Pittsburg, Chicago, Minneapolis, New Orleans, Philadelphia, Cleveland, Kansas City, Boston, St. Louis, London, Eng.



We Published This book for YOU and we send it FREE

It is called "Concrete Construction About the Home and on the Farm" and consists of 128 pages.

It goes about the subject of concrete construction in a plain and practical way, giving illustrations and diagrams of concrete barns, walks, silos, water troughs, etc., and tells how to make them. The instructions are clear and complete and the diagrams are easy to understand. As you read this book you will see the necessity of using the best cement in all your construction work, or else your labor may go for nothing.

ATLAS is the highest grade of portland cement manufactured. There is but one quality, the same for everybody. **ATLAS** makes the best concrete because it is alike at all times in composition, color, fineness and strength.

4,500,000 barrels of **ATLAS** were ordered by the United States Government for the Panama Canal. The largest order ever given in the cement industry.

TRADE MARK

THE ATLAS PORTLAND CEMENT CO. PORTLAND ATLAS CEMENT 30 BROAD ST. NEW YORK

NONE JUST AS GOOD

Ask your dealer for **ATLAS**. If your dealer cannot supply you write to

THE **ATLAS** PORTLAND **CEMENT** COMPANY

Department 122 30 Broad Street, New York

Daily productive capacity over 40,000 barrels, the largest in the world.

WESTERN EDITION

ESTABLISHED 1877
The Illustrated Farm and Family Journal

24 NUMBERS
35 CENTS

LIBRARY
RECEIVED
MAY 8 1909
U. S. Department of Agriculture

Vol. XXXII. No. 15 Springfield, Ohio, May 10, 1909 Terms { 1 Year, 24 Numbers, 35 Cents / 4 Years, 96 Numbers, $1.00

Growing Legume Crops on the Farm

Clover Questions

How would you create soil fertility to secure a good catch of clover? This question, taken from the question-box at a farmers' institute this last winter, is one which many a farmer would like answered to his satisfaction. I know I should have liked a definite answer as I walked over my fields of new seeding a few days since, where that fifteen-dollar clover-seed was sown last year, but where now very few plants are left to tell the tale.

Last year I was happy with an excellent catch from the work of the year before, but the long, severe drought of last fall and winter was disastrous to last year's seeding. This is the first time for several years that we have failed to secure a fair stand from seeding with spring grain, which seems to be the best way for us, as the spring grain is most needed on the farm.

There appear to be two things needed to make clover more certain on our soil; one is a chemical need and the other a physical one. Whether the chemical need is an acid condition of the soil which needs correcting, I am not sure, but very likely it is. Basic slag has proved very useful to the seeding. One piece last year, which was our special pride, had received a heavy application at seeding-time, heavier than I intended, because this material is so fine and heavy that when the drill was closed as tightly as it was possible to close it there was applied much more than the two hundred pounds to the acre which I had intended to use. Now, while basic slag carries a large percentage of lime, it hardly seems that there is enough in the application given to have any great effect in correcting acidity, yet this may be the case. The land here seems to be in especial need of phosphoric acid, and this may be the dominant factor. Whatever the cause, we have seen some very marked effects where it has been applied. Last year the application was kept nearer two hundred pounds to the acre, and our poorer stand may be the result.

This red shale soil seems to be greatly in need of humus. If I could fill it with decaying vegetable matter I think I could grow clover, regardless of any acid it might contain, but this is a difficult thing to do. The higher knolls do not produce a heavy growth of any kind and it is hard to get much humus-building material. I think we are pretty generally agreed that this humus problem is the most important one with which we have to deal in maintaining the fertility of our soil. If we can only get a good supply of that I think we can grow clover.

Another question asks which is preferable to buy, mammoth or medium clover. I think this depends much upon the rotation and the other conditions. If I were running a three-year rotation in a region where conditions were favorable for securing a second crop of clover, I should prefer the medium clover. With our four-year rotation, where we mix grasses with the clover, I like the mammoth clover best. Being later it is in the right condition to cut at about the same time as the grasses, while the medium clover is earlier. With us we cannot depend upon the mammoth clover to give much of a second cutting, though it is sometimes desirable to clip it, to prevent it from going to seed, which usually means that the plants do not survive the following winter. I have sometimes thought that mammoth clover is a little better able to endure unfavorable conditions and soil acidity, but I have not sufficient evidence to warrant me in making such a statement. I should be glad to know if others have observed anything of the kind.

Sowing Clover-Seed so as to Get Best Results

I find two other questions along this same line. One asks how clover-seed should be sown to secure best results. I think that so far as the clover alone is concerned, we should get best results by fitting the land well, as for any other crop, and then sowing it alone; but since we do not expect a full crop the first season under those conditions, we are not in the habit of doing it that way. I believe that the next best way is to sow it with fall grain on the honeycomb soil early in the spring.

But most of us do not want to grow any large quantity of fall grain. What, then, shall be the method in following the spring grain? There is more uncertainty here, for several reasons. In the first place, we cannot always get the crop in early enough for best results with the clover. I was impressed with this fact in reseeding last year's oat ground. Contrary to the usual results, we had better oats last year on the later sowing than on the piece put in first. We finished on a level portion of the field where part of the land is wet, and indeed finished in the rain. The oats seemed to grow as well there as anywhere, but I noticed, when it came to the reseeding now, that there is practically no grass or clover there. Late in the season the soil dries out too quickly for these fine seeds, which must lie close to the surface to insure germination and a good start. Our plan has been to sow with the grass-seeder attached to the drill ahead of the hoes. I am not sure that this is the best way, but it has usually given us good results.

Another difficulty in seeding with spring grain lies in the fact that the grain makes a thicker growth, as a rule, giving the young clover and grass plants less chance for sunlight and air. Then, again, the spring grain is later in ripening, so that hot, dry weather is more likely to follow the harvesting before the young plants have had an opportunity to gain a good foothold and become accustomed to their new conditions. If it were possible to do the work promptly, I think it would often be better to disk or harrow the ground promptly as soon as the grain is removed, and keep it well harrowed until the first of September, and seed then alone. It is often difficult to do the work in time, and some seasons the weather is so dry at that time that it is difficult to secure enough moisture for germination with so short a time for tillage. Some of the best stands of clover I have ever seen have been where I have used it as a cover crop in orchard or bush-fruit land, sown at about this season.

Another question asks if it is advisable to mix alsike and red clover to sow. I think this can be answered with a pretty positive yes, particularly for moist lands and where the land is to remain in grass for more than one year. The alsike thrives better on wet land and is more permanent. Last year the seed was somewhat cheaper than red-clover seed, and I used one quart of alsike to three of red clover. It is hard to tell at this date, but the appearances indicate that most of the clover left is alsike.

FRED W. CARD.

Alfalfa-Roots Fill the Soil With Humus and Prevent the Formation of Gullies

Alfalfa in Tennessee

We have come to fully realize the value of alfalfa on our farms in eastern Tennessee, and it would seem we are not without company. The movement is wide-spread, and may we hope that we as farmers may keep on until success will be ours.

The illustration represents a four-acre plot of well-set alfalfa. The writer is standing knee-deep in a washed-out clay bank, while over the fence, on soil equally washed and otherwise impoverished two years ago, now (November 1, 1908) stands alfalfa that produced one and three fourths tons of well-cured hay with three cuttings to the acre, and a fourth growth is shown averaging eighteen inches high that we left for a winter covering.

The means we employed in securing this may be of interest and help to some of our readers, for after all the writer can conceive of no more helpful way of spreading the growth of this wonderful plant than by telling others how he succeeded, for the growing of alfalfa and all clovers is the only means that we can employ whereby we can ever hope to maintain and improve our soil's fertility.

It is a plain, common-sense proposition. We must grow crops that will sell, or whose feeding value on the farm is more than the cost of production, and never lose sight of that other cost so often uncounted—namely, the plant-food removed from the soil in the production of the crops on the one hand, and the plant-food deposited in the soil by the crop itself on the other.

In the early fall of 1906 we plowed this four-acre plot to an average depth of sixteen inches; seeded it to stock-peas in the spring of 1907; allowed the crop to mature for hay, and removed it, and then seeded to alfalfa, adding three hundred pounds of fourteen-per-cent phosphoric acid with four tons of barn-yard manure to the acre. This was done September 1, 1907.

Early in March, 1908, we applied twelve hundred and fifty to fourteen hundred pounds of burned lime to the acre. From this time on the alfalfa fairly jumped. It never turned yellow, but grew and kept growing, never heeding the local drought that scorched our crops of corn and other grasses. Two crops were harvested that had not had a drop of rain, while our red clover disappeared.

Give deep cultivation, then seed to stock-peas or soy-beans, add phosphorus, then seed to alfalfa, and two or three months later follow with lime, and you have alfalfa; or, if possible, add the lime before you seed to stock-peas or soy-beans. This was impossible in our case. On soils with a red clay subsoil you must have lime.

O. P. R. FOX.

Notes From the Shop and Field

What the Practical Farmer Can Make and Grow on His Own Farm

An Easily-Built Concrete Land-Roller

As a good land-roller is a necessity to the farmer and to the small-land owner, and the cost of this tool is often prohibitive, the following plan should be of value, as it allows the construction of a tool that for all practical use equals any that can be purchased.

In molding the rolls from concrete, we will take for illustration a roller made up of three rolls, twenty inches in diameter and twenty-four inches long. For the form to mold these, prepare four two-inch planks fourteen inches wide and twenty-four inches long. From two of these cut a half circle eleven inches deep; this will give a circular opening in the two planks of twenty-two inches when they are joined together as shown in Fig. 1. These two planks are for the top of the mold as illustrated.

Now take the two half circles you have cut from the planks, and trim off the edge until they are just twenty inches in diameter when joined together; these are to form the bottom of the mold. Nail each of these two half circles to the fourteen-by-twenty-four-inch bottom planks in the center, so that when the two planks are laid side by side the two half circles form a perfect circle, projecting up two inches from the bottom planks; these are so that the sides of the mold can be easily nailed to the same.

For the sides of the mold, cut one-inch strips twenty-six inches long; nail one end of these to the raised circle on the bottom planks, to the outside edge of same, and the other end to the inside edge of the circle on the top planks, as illustrated in Fig. 1. This forms a circular mold when the two parts are set together that is twenty inches in diameter and twenty-four inches long, inside measurements.

The two parts of the mold are to be held together when molding the rolls, by having two hinges on one side and fastening the other side with two hooks as illustrated. This allows the roll to be molded, and when you are ready to remove from the form, all that is necessary is to turn the bottom side up, unhook the hooks, and the form or mold folds back from the concrete work, and does not require the mold to be torn to pieces to take out the work.

To make the core or bearings for the rolls to run upon, if a one-inch shaft is to be used, and you desire the bearing frictionless or roller bearings, procure a length of gas-pipe exactly two inches in diameter, inside measure; have these exactly twenty-four inches long and one for each roll you wish to make. In the center (use care to have exact) of the bottom of the mold bore a two-inch hole, and insert a plug of wood so it projects up several inches; this can be held in place by nailing the bottom end of same to one section of the mold. The length of the gas-pipe, which is molded in the roll as a bearing-case, is set over this plug and is held exactly in the center of the mold at the bottom.

On the top of the mold have a strip of board so as to reach across; fasten this to the two sections of the mold with a pin at each end as illustrated. Exactly in the center bore a two-inch hole, and insert a wooden plug as you have in the bottom, so as to project down; this firmly holds the length of gas-pipe in the center at the top of the mold.

In molding the rolls, set up the form, which is illustrated in Fig. 1, with the gas-pipe in place ready for the concrete, fill the mold with a mixture of one part Portland cement to two parts sand and four parts small gravel averaging about one half inch in size. Have the concrete thoroughly wet, then tamp into the mold so that it is packed as securely as possible, as the more tamping, the greater the density and strength of the roll.

The concrete should be left in the mold until it has begun to "set" or harden; this requires about forty-eight hours, when the mold can be turned bottom side up, the top strip being first removed, and by unhooking the hooks, the mold can be folded back from the work without the least danger of breakage.

You can mold three, four or six of these rolls, depending on the size of roller you wish; the frame for same can be built of lumber, as shown in Fig. 2, with any change you may desire in it.

For some work a solid concrete roller would be too heavy, and for all purposes can be made lighter. This is easily remedied when molding by preparing several round sticks of wood—a fence-post is just the thing; have this the length of the roll and four inches in diameter at one end and three inches at the other end. By having it tapering it is the easier removed from the concrete. Use four or six of these, as you wish, and mold in the concrete when molding the roll, removing with the mold, as wet concrete when it dries or hardens always shrinks in size from one sixteenth to one eighth inch, and thus allows the sticks to be easily removed. In this way you can regulate the weight of the roller to suit the needs.

For the roller-bearings, which are a valuable thing in a tool of this kind, as they do not require oiling, secure a shaft for the roller of the proper length, which should be about seven feet if but three rolls are used. This can be made from a length of gas-pipe if nothing better is at hand. Have one or one and one half inches in diameter, as you think best; if the latter, the roller-bearings will be one fourth of an inch in size.

For the roller-bearings, cut from one-fourth-inch iron rods pieces just twenty-three inches long; have each end perfectly square and any roughness along the rod removed with a file. In setting up the roller, place the shaft in position in the roll, inside the gas-pipe, then fill the space around with the iron rods, which have been greased; these, when they wear smooth and perfectly round, make a very good, frictionless roller-bearing that does not require oiling and runs smooth and easy.

To prevent wear on each of the outside parts of the frame of the roller, an iron plate should be placed for the shaft to go through, and with several washers on the shaft at each end there is no possible chance for the roller-bearings to work out and catch on the framework.

In the absence of a suitable collar to hold the shaft in position, drill a hole in the shaft at each end, so as to come outside the frame, and insert a bolt in it; this will prevent the shaft from working out of place, and as the bearings give plenty of space to turn the rolls, the shaft can be bolted to the framework at each end if so desired.

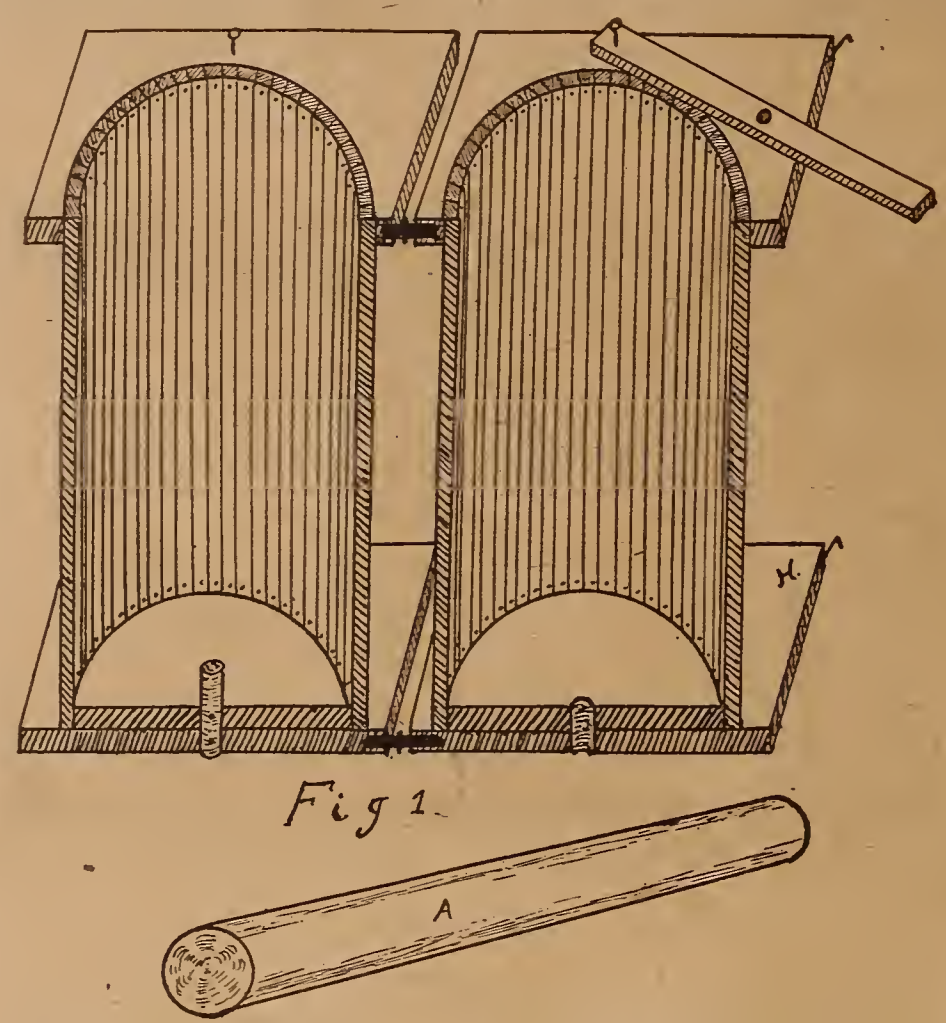
In placing the rods in position, use care to know that each rod is perfectly smooth on all sides and ends, so that they will not become clogged or catch in operating the tool.

One or two large washers placed in the space between each roll, on the main shaft, will be of value in preventing the rolls from rubbing together, and thus causing friction and a harder draft, as well as wear on the rolls.

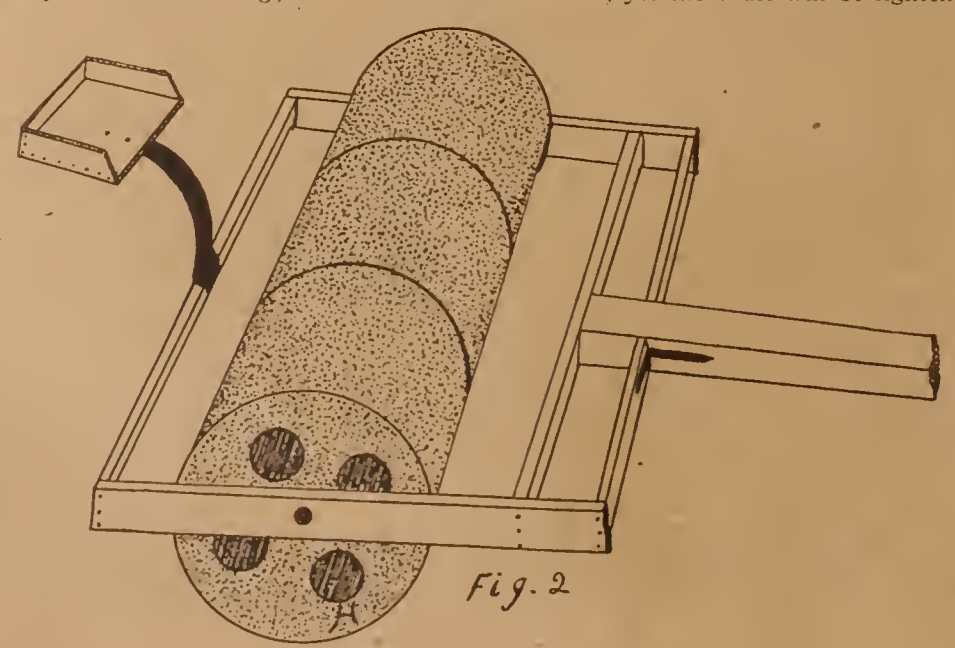
Even if your rolls are cast with solid concrete and of a greater weight than iron rolls, yet the draft will be lightened, as the roller or frictionless bearings will easily make up in draft the difference in weight.

In durability the rolls of concrete have an advantage over cast-iron rolls, in the fact that in event of a break the concrete will be apt to just chip out a small piece, when a cast-iron roll would smash all to pieces. If properly "cured" before use the concrete rolls should have as much resistance and strength as rolls of cast iron.

A. A. Houghton.



Molds for Making the Rolls, Open and Right Side Up. A Shows the Tapering Stick Used in Molding to Decrease the Weight of the Roll



The Concrete Land-Roller

Growing Post and Pole Timber in Ohio

Among several varieties of trees suitable for this purpose, three have been selected by most growers as likely to produce best results. These are the Catalpa speciosa, the yellow locust and the osage orange. The most lasting of these is the osage orange, with the other two probably rivals for second place. In rapidity of growth the catalpa is first, with the locust second and osage third.

The catalpa makes a very satisfactory post or telephone-pole, because it holds a staple well, does not check and allow it to drop out, and as a pole is easy to climb; however, the objection to locust and osage checking or getting too hard is overcome by using the very short staple made for such posts.

Growing Seedling Trees

Prepare a plot of ground very carefully, having the soil fine and firm. Mark with sled, or some implement that will make a shallow mark, about three feet apart.

The catalpa-seed will need no preparation, but the locust-seed should be soaked in very hot, almost boiling, water. Pour the water on the seed in a vessel, and allow it to stand twenty-four hours. The seeds will swell to several times their former size and are then ready for planting.

Drill the seeds by hand in the shallow marks, and cover about one half inch deep, firming the ground lightly with the foot. In about one week of good weather the little plants will appear above ground. Cultivate as carefully as for any garden crop and in a fairly good season the catalpa should be from sixteen inches to two feet in height at the end of the growing season, with the locust somewhat larger.

Several thousand of these young seedlings will grow on a very small plot of ground, and the expense per thousand is trifling, so that I would advise those who expect to plant any considerable number of trees to grow their own trees from the seed. The time for planting the seed is after the soil becomes well warmed up about corn-planting time for your locality. These young trees should be transplanted into the permanent wood-lot at one year old.

Transplanting

The plot of land where the trees are to have their permanent home should be plowed and as carefully prepared as for a crop of corn and marked off in such a way as to allow about one thousand trees to the acre. If planted in squares this would be approximately seven feet apart each way. But we believe that four by ten feet is better as well as much more convenient, allowing a wagon or mowing-machine to be driven through between the rows, and when the time comes to remove one half the trees, it leaves them eight by ten feet, a very good distance for later growth.

One man with a spade and another with a handful of trees placed in a bucketful of thin mortar, so that the roots are well covered with it, make up the outfit necessary for transplanting. The spade is inserted perpendicularly to the depth plowed. By pressing it forward the tree can be placed in behind it, and when the spade is withdrawn, the dirt can be firmly pressed around it with the foot.

Cultivation

For two years the trees should have clean cultivation with corn-plow and hoe. The very rapid growth will well repay for this extra work. Right here is where many fail. The young trees after planting are left to take care of themselves, or only one year's cultivation given. This is a very serious mistake, as the trees will not only fail to grow well, but the grass and weeds harbor mice and rabbits to peel the bark in the winter-time, and thus destroy many of them. After two years the cultivation can be discontinued, unless it is to keep down weeds.

Pruning

Growers differ about pruning. If the object is to have rapid growth and to get posts as soon as possible, I would not prune until three years after transplanting, except to remove bad side limbs or to prevent a tree forking. At no time prune closely, allowing about three years' growth to furnish plenty of leaf surface, for only by this method can you get the rapid diameter growth.

Horatio Markley.

Around the Farm

Items of Interest and Value to the Progressive Farmer

Mating Queens With Baby Nuclei Hives

There is a great difference in the surplus storing abilities of the colonies in an apiary. Some colonies are disappointing. They seem to be unable to store any amount of surplus even when, evidently, all conditions are favorable, and under unfavorable conditions such colonies nearly starve when some others lay up a small surplus. On the other hand, the good colonies with great storing capabilities will sometimes astonish the apiarist with the celerity with which they fill and cap the sections.

After an apiarist has the desired number of colonies, swarming generally is suppressed as much as possible. But it is a good idea to get the "star" colonies to swarm, so that the queen cells can be saved and the queens introduced into poor colonies. Now, such queens must first have mated, and that requires extra hives, something that the apiarist is short of at just this season. If the queen cells are allowed to hatch inside of cages, these virgin queens may be fertilized by only a handful of bees in suitable small hives. I have used such small hives, "baby nuclei," as they are called. I use small frames of such a size that four of them will fit into a regular brood-frame. The miniature hives are of a size so they will hold two frames. A three-eighths-inch hole is bored at the bottom of one end of the baby hive, to serve as an entrance for the bees. The cover works with leather hinges.

The frames are filled by cutting pieces of worker-comb to fit into them. When four of the little frames have been wedged into a regular brood-frame they are hung in an upper story to be filled with honey.

To stock the little hives with bees, smoke well, preferably, the bees of a queenless colony, and get them to fill themselves with honey. After the bees are well subdued, shake them into a small box or basket. Then dip up about a teacupful of bees, and empty into each little hive. Quickly turn down the cover. The small entrances should already have been closed with a wooden plug, so the bees will be imprisoned. Leave them this way for five or six hours, then pull out the plug and smoke them well again; and it's well to use a little tobacco in the smoker. Then run in a five or six days old virgin queen, blowing some smoke after her. Leave the bees imprisoned another twenty-four hours, then pull out the plug.

If the weather is favorable the queen will commence to lay in a few days. Then she can be introduced by the usual methods into colonies having poor queens.

More queens can be mated in this way, but I have seldom been successful with the second queen that I tried to have fertilized. The bees will kill the queens, no matter how much I smoke them. For this reason it is better to brush out all of the bees from the little hives and restock them the same as at the start. It is a good idea, too, to leave the combs without bees for about twenty-four hours. Then the eggs and larvæ of the former queen will perish. This will make the bees more in a mood to accept a virgin queen.

Don't put the baby hives (the subsequent times) in the places just before occupied. Some of the bees of the previous lot of bees will return and make trouble. Such a small number of bees cannot gather much honey, so the little frames should have been well filled, that they may not starve.

On account of the few bees, the baby hives are liable to be robbed out if precautions are not taken. I have the little hives scattered among shrubs and bushes. Some I perch in trees, but always place them a-ways off from the main apiary.

As such small hives can easily be hauled almost any distance, it is a good idea to take them two or three miles off from any other bees. Also take a hive having choice drones to the same place, and most, if not all, of the queens will mate with these drones. Such stock improvement will make all of the colonies more alike as to amount of surplus stored. F. A. Stroschein.

Dust Spray for the Orchard

For several years past I have been a reader of the Farm and Fireside and appreciate it very much. It is a power for good. During that time I have seen but one writer say a good word for the dry-powder gun for spraying fruit-trees, vegetables, etc. Many of the experiment stations and writers in the agricultural papers seem to condemn it. I have wondered if they speak from actual experience. From an experience of several years with one I consider them a great success.

A number of years ago I had charge of an orchard of about one hundred and eighty apple-trees that were set out about a dozen years before. On a part of the ground where these trees were set the top soil had been removed for grading around some buildings. In the spring of 1892 these trees received a much-needed pruning, which with a large number set out later were sprayed with a barrel spray-pump, which took two men with a team two days to spray. The result was a fair crop of apples of good quality.

A liberal amount of barn-yard manure was applied that fall. The next spring a dry-powder gun was purchased at a cost of about seven dollars, together with a quantity of dry Bordeaux powder. The trees were sprayed the next spring with the dry Bordeaux dust when the leaves were about the size of a mouse's ear; the next time just after the blossoms were gone, and again in about ten days.

If a rain came too soon after spraying, it was gone over again. One man was able to spray all of these trees in one day easily. The dust would adhere to the dry foliage. That fall there was a large crop of apples of excellent quality, with slight loss during the growing season from any cause. We had the same result for a number of years in succession.

The dry-powder gun was always loaded. A little dust on the leaves around a nest caused the worms to soon cease from troubling.

During this time the other orchards in the vicinity were infested with a moth on the foliage, causing them to look as though a fire had been through them, from which this orchard was entirely free.

Ohio. A. W. Stiles.

The Baby Hive in Position Among the Branches

The "Baby Nuclei" Hive

Paint, the Farmer's Friend

Paint is and should ever be one of the greatest friends of the farmer. It preserves and beautifies his buildings and his farm machinery as well. The farmer who uses this friend liberally will be the richer in the long run.

Paintless buildings not only look shabby, but the dampness collecting in the material is most certain to cause early decay. Machinery from which the paint is worn will be seriously affected by the weather. The wood parts are most certain to rot in time, and the iron portions will be weakened by the continued rust. One dollar invested in paint for buildings and machinery will save ten.

While there are thousands of farmers who hold to the idea of their forefathers and mix their own paints, we believe it is cheaper to use the ready-mixed, especially since the government requires the makers of such paint to put out good material. It is no doubt impossible for a man to mix with a common stick the oil and lead and other ingredients as well as the factory does with machinery that weighs thousands of pounds.

Investigation shows that often within a few weeks after a building has been painted with this home-made material there are places where the lead peals off. These sores have an effect similar to a bruise on an apple. The air and moisture find admittance here, and the damage to the lumber is soon manifest. If the farmer does not paint again for a couple of years, the building will have greatly deteriorated in value.

One man has shown that a house which can be painted for forty dollars with the home-made preparation can be properly "covered" for forty-five dollars with the best ready-mixed paint on the market. From the testimony of hundreds it is learned that by using the home-made paint, buildings must be painted once every two years to be kept in good condition, while with a scientifically prepared paint once in every three or four years is all that is necessary. Any one can readily see the saving by using ready-mixed paints. W. D. Neale.

Growing Potatoes

Well-drained sandy loam is the best soil for the potato, but almost any dry soil can be fitted for its growth by manuring or plowing under green crops.

Newly-cleared land or old sod pastures are well suited for this plant. The breaking of these should be done in the fall, to get rid of many pests, and if done in the spring, it should be done very early.

Barn-yard manure well rotted is the best fertilizer. Fresh manures are injurious. Where commercial fertilizers must be used, see that they contain elements of nitrogen, phosphoric acid and potash. All land designed for potatoes should be worked deep and thoroughly. It is best to alternate this potato-planting each year, to avoid scab and other diseases to which this plant is so subject. Not more than two crops should be grown on the same soil consecutively.

Planting

Care should be taken in this work. To have a good crop you must have a good stand of plants, and this depends on careful planting.

One writer said last spring that he opened a furrow with a breaking-plow, put his seed in, and turned back furrows on the potato row, thus planting and hilling his potatoes at one operation.

If one can afford a planter, much vexation can be avoided in the planting; time, labor and seed are saved, and the work is more uniformly done.

The time for planting varies in different localities, but a general rule is to plant at such time as would insure sufficient moisture when tubers are forming rapidly. Early planting, even with the late kinds, generally gives best results.

Cultural Methods

Different views are held as to the methods of culture. Some advocate level culture, others hill culture. Location of soils should tell which to do. Dry soils will be best suited to level culture, but the planting should be deep. Hilling has always given us best results.

When the plants appear above ground, a harrow with teeth slanting backward is run over the field. No harm to the young potato will follow, but millions of tiny weeds will be destroyed.

The fine-tooth cultivator with plow attachments makes fine work, and by having a hilling-shovel in rear end, each plowing will form a slight raise toward the plant. The soil is kept mellow and free from weeds till the plants are in bloom, when cultivation ceases.

Seed-Potatoes

Our practice every season is to save seed at digging-time. This insures good pure seed and no mixing of varieties.

Medium-sized tubers, even and smooth and free from scab, are selected and kept in the cellar at a low, even temperature till wanted in the spring.

We grow seedling-potatoes every year from selected seed, and with no more trouble than to grow the tomato. Sow the seed the same as tomato-seed in a hotbed and treat the plant the same as the tomato-plant. After danger from freezes, put the plants in open ground and cultivate them as other potatoes. We get many fine sorts this way and they are free from disease for a long time.

Diseases

Blights, early and late, are common. They are known by small gray spots on the foliage. This turns brown and the leaf curls up and dies. Bordeaux mixture will check it.

Brown-rot not only destroys the foliage, but follows down to the tuber, which is destroyed. The disease is hard to control, but the Bordeaux mixture is the most effectual remedy.

If one must plant potatoes with appearances of scab, they should dip the seed in a mixture of fifteen gallons of water with eight ounces of formalin (forty per cent formaldehyde). This will destroy all germs of this disease.

Paris green in solution with water sprayed over vines will destroy all beetles, bugs, etc. Begin early to catch the hard shells, and the larvæ will not be so numerous. J. H. Haynes.

This Roof Wears Longest—Costs Less

"Climax Asphalt" and "Veribest Rubber" Roofings wear longer than any other. Thousands of users say they will outwear any roofing made. Both brands are sold under a positive guarantee. They are **fire-proof, cold-proof, water-proof.** Easy to lay and will **always stay laid.**

"Climax Asphalt" and "Veribest Rubber"

are good for either flat or pitched roofs, and can be laid over old shingles. Insurance companies endorse these roofings and insure your buildings at the same low rate as for slate, tin or iron.

Write for **Free Samples, Free Roofing Book** and **bottom prices.** Many dealers sell these brands. They cost less than others.

McHENRY-MILLHOUSE MFG. CO.
Station A, South Bend, Ind.
"The Roofing that Never Leaks"

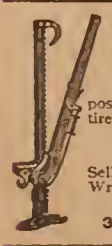
Is your lantern a "tender-foot"? If you put it in a draught does it sneeze?

"PRISCO" COLD BLAST LANTERNS DON'T SNEEZE

They are draught-proof—there's a wind-break and a patent arrangement of the globe plate that prevents flickering.

Send for our book of lantern facts and Prisco proofs. It's free.

THE PRITCHARD-STRONG CO.
6 Circle Street - Rochester, N. Y.



Can You Sell

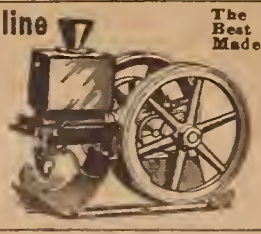
This handy tool to your neighbors? Wire fence stretcher, cutter and splicer; press; lifting jack; post puller, etc;—useful in a hundred ways the entire year. Not an experiment—a finely finished tool.

Leader Combination Tool

Sells on sight to every man. Thousands in daily use. Write today for special offer to agents.

THE LEADER JACK CO.
30 Main Street, Bloomfield, Indiana

Stationary Gasoline Engines — The Best Made



Simple in construction and are guaranteed to give perfect satisfaction. Catalogue showing low prices on steam and gasoline engines and on all farm implements sent on request.

THE MESSINGER MFG. CO.
P. O. Box 4, Tatamy, Pa.

OSGOOD "Challenge" Wagon Scale

Who weighs the products that you buy and sell? If you use somebody else's scales, you're going more or less "by guesswork." Install an Osgood Scale of your own and KNOW your weights—get full value for everything. Many styles to select from. Prices within your reach.

$25 to $50

Write for Catalogue
OSGOOD SCALE CO.,
BOX 165 BINGHAMTON, N.Y.

The Louden Way

of saving labor—absolutely indispensable on your country place. Write for catalog of Louden Litter Carriers, Hay Carriers, Sanitary Steel Stalls and Stanchions, Flexible Barn Door Hangers and other labor-saving devices. **LOUDEN MACHINERY COMPANY,** 688 Broadway, Fairfield, Iowa.

ADMIRAL 2 MAN PRESS.

3 FEEDS TO THE ROUND — SELF FEEDER — 2 PROFITS IN HAY BALING

BOX 17
ADMIRAL HAY PRESS CO., Kansas City, Mo.

Practical Farm Notes

Modern Farm Waterworks System

One of the important matters to be considered in the improvement of the farm home is the source, quality and quantity of the suppy of water. It is a sad reproach to our farmers that they have paid so little attention to the needs of the house in the matter of providing it with an abundant supply of pure water.

There are many farmers who have been ready and willing to invest in all kinds of improved labor-saving machinery, and to build barns and stables that would conform to every requirement of modern hygiene, but the matter of modern conveniences and sanitary improvements about the home have too often been neglected until time, money, health and many times life itself have been sacrificed.

In plain language, in spite of our boasted civilization, the farmer's wife is too often a laboring drudge, not of necessity or design, but from neglect and want of consideration. On more than one half of our farms the wife works more hours and endures more hardship and unnecessary exposure than any man employed on the farm. Happily, this condition of things is fast passing away, and it is now generally understood that running water in the kitchen sink is fully as practical as running water at the barn and stock yards, and many of the more progressive farmers are making plans to install modern farm waterworks systems.

Sources of Water-Supply

The best and most simple source of supply on thousands of farms is a spring or brook sufficiently elevated to cause the water to flow at the house faucets. On such farms the cost of installing a gravity system of waterworks will depend largely upon the distance from the source of supply to the buildings, for the cost of fixtures and the maintenance expense will be reduced to a minimum if the work is done properly and the pipes placed deep enough to prevent freezing during the winter.

Many times, when a single spring will not afford enough water, two or more springs can be piped to one reservoir, and from there to the buildings. To construct a reservoir, the best method is to build a box or tub of the desired capacity, place it where desired, dig away the earth for about one foot around it, board up the outside, fill the space with concrete, and allow it to harden. After the concrete has hardened, the woodwork may be removed, and the reservoir will be left and will last as long as needed. If water is liable to freeze in the reservoir, I would advise the builder to make the sides slope outward toward the top. A stone or concrete arch will make an excellent cover.

When a dam is built in a brook, it is a simple matter to lay the pipe in a trench, and cover the end with a strainer; but if there is danger of the brook going dry during the summer, ample provision should be made to keep the water at least ten feet deep in the reservoir, to prevent it from becoming stagnant and offensive. In order to keep the water in the reservoir that deep it requires for economy that the dam be made in some deep, narrow gorge, and care should be exercised that the dam is built sufficiently strong to hold the water during freshets.

Where running water is near by, the best and most economical form of power will be the hydraulic ram, which will elevate the water, the power of the falling water doing the work. The chief objections to the use of a hydraulic ram are that the fall is not always sufficient to do the work, and there is danger of interruptions from accumulations of air during the summer and from freezing during the winter. In a country where the weather is extremely cold a shelter may be built over the ram and a fire kept burning, to prevent freezing.

Windmills are a cheap but rather uncertain source of power, and it is foolish indeed to install a windmill power and tank, only to find that at times, when water is particularly needed, no water can be had for lack of wind. Better by far to install a power pump than to place too much reliance upon a windmill power. Without doubt the most simple kind of pump worked mechanically is the hot-air engine, which is made to go by the expansive force of hot air. Wood, coal, gas or kerosene may be used for fuel. Such a pump requires but little attention after starting, and occupies but a small amount of floor space.

My experience and observation have convinced me that pumping should not be resorted to unless it is practically impossible to install a gravity system or a hydraulic ram at almost any reasonable cost. It would be better economy to borrow six hundred dollars at five-per-cent interest to pay the increased cost of bringing the water from a long distance with a gravity system than to pay for a pump that would cost from ten to fifteen cents a day to operate. Then, again, a gravity system is more reliable when properly installed. We have gravity systems on our two farms, and they have always given entire satisfaction and have been in operation more than twenty years. No matter what kind of system is installed, there are many points to be observed in putting them in operation, especially in a country where we have long, cold winters.

Kinds of Pipes, Sizes, Etc.

Everything considered, I believe that under all circumstances and conditions galvanized piping will prove better and more economical and give better satisfaction than other kinds of piping. Lead piping is very expensive and difficult to lay and repair, and then, again, many people are prejudiced against water that flows through lead pipes. I have no reason to believe that any injury comes from its use unless the water stands in the pipe for considerable length of time. Iron piping is much cheaper, but it will corrode and rust out in a few years, hence it is not the best kind to use for a permanent system of waterworks.

In laying water-pipes, we make it a practice to place unions four or five lengths apart, so that if necessary to make repairs or clean the pipes, we can take up a few lengths without disturbing the whole line. Another point we have found by experience is that it is best to use a large pipe for about one third of the distance, a size smaller for the next third, and the minimum size closer to the buildings, in this way a better pressure being obtained at the house faucets.

Never make the mistake of laying a half-inch pipe, for no matter how great the fall from the source, it will prove a source of trouble and will not give satisfaction. To make a four-gallon-a-minute flow of water at the house faucet would require that a half-inch pipe one thousand feet long have a fall of five hundred feet from its source, and it would be impossible to find a pipe that would stand the pressure, even if possible to get the elevation. An inch pipe one thousand feet long would require an elevation of only sixteen feet to discharge the same amount of water at the house faucet.

In a long underground pipe-line it is always well to place T's every three or four hundred feet, with short stand-pipes and cocks. In case the pipe becomes clogged it is easy to locate the trouble and clean out one or two sections at a time with a force-pump. When the pipe goes over an uneven grade, T's should be placed at the highest points and a stand-pipe with a pet cock on top. It will then be easy to open the pet cock on top and allow the air to escape. As soon as the water begins to come, close the pet cock. Protect the stand-pipe from freezing with a covering of soil.

Plumbing

No matter which system is employed to bring the water-supply to the house, the same general plans should be used to install the plumbing inside the house. The first point to be considered is to bring the water into the cellar where there will be no danger of its being stopped by freezing during extremely cold weather. The work is more simple and repairs can be easily made when the plumbing is in the cellar where a man can work conveniently.

In the farm-house the introduction of a modern waterworks system presupposes a better system of heating. The kitchen must be kept warm all night, so that the pipes will not freeze, and the bath-room and closet should be where they will be warmed by the kitchen or the sitting-room stove, unless the house is heated by a furnace. The conveniences made possible by the introduction of running water are hot and cold water at the sink faucets, a modern closet, hot and cold water at the bath-room, and a laundry-room with hot and cold water when needed. All of this equipment will cost from one hundred and fifty to two hundred dollars outside of the labor of installing.

At the barn the introduction of running water makes it possible to have watering-tanks, automatic water-basins at the side of each animal, water at the tubs where feed is mixed, running water in the dairy-house where the milk, cream and dairy products are kept, and yard tanks in every stock-yard.

All plumbing fixtures should be placed in well-lighted and well-ventilated rooms having windows and outside air. The fixtures should be placed where they may be seen at all times, and not in some box concealed by woodwork. All modern fixtures are porcelain or enameled ware lined and built to be placed upon brackets.

Disposal of the Sewage

We next come to the disposal of the sewage, which is of fully as much importance as the other features of the plumbing, and for this purpose no pipe should be used inside of the house or cellar which is not made of cast-iron or lead.

Immediately under every plumbing fixture should be placed a trap to disconnect the house fixtures from every communication with the sewer or interior of the sewer-pipe. The main sewer-pipe should extend at least ten feet beyond the cellar or house wall, for it is practically impossible, even by the use of cement, to seal the joints sufficiently tight to prevent the escape of sewer-gas into the soil and atmosphere under the house, or even through the sewer-pipe into the earth close to the house.

Inside of the house all fixtures should be both air and water tight. The main pipe or the soil-pipe should be three or four inches in diameter and extend above the roof of the house, to provide ventilation.

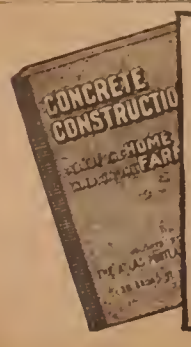
All of the sewer-pipes outside of the house should be laid quite a distance from the cisterns and wells, for there is more or less danger of leaky joints that may pollute the water. If impossible to avoid running sewer-pipes close to wells or cisterns use nothing but cast-iron pipes with leaded joints made absolutely tight. I would recommend the use of four-inch vitrified sewer-pipe for the main line. Great caution should be exercised in keeping the grade the same all of the distance, and all joints should be carefully sealed with a rich Portland-cement mortar. Every tile should be laid plumb with the grade line. Unless the fall is considerable, much trouble will be saved by taking pains to secure a uniform fall from the house to the end of the sewer.

The next point to consider is how to dispose of the sewage in the most sanitary and efficient manner. If the buildings are close to some stream of considerable size it may be judicious to run the sewage into such a stream. In some instances a ravine or ditch may be utilized for the disposal of the sewage; however, on most farms it will be necessary to employ other means. Years ago the construction of cesspools solved the problem, and instead of making the cesspool air-tight, it was constructed in a porous soil, to avoid the expense and disagreeable work of cleaning it out from time to time. Such leaching cesspools are a source of danger to surrounding wells, and for that reason their construction is not to be very favorably recommended.

During recent years much attention has been given to disposing of farm sewage, and many are now using a tank somewhat like a cesspool, which is called a septic tank. In this septic tank the growth of certain bacteria is encouraged. These bacteria are termed "anaërobic bacteria," or those that do not require air and oxygen to live. These anaërobic organisms seize upon the organic matter in the sewage and partially break it up and change it into mineral forms. After a time much of the solid matter in the sewage is liquified.

A septic tank is simply a water-tight tank of certain size and arranged in accordance with certain principles, into which the sewage is discharged. The sewage itself contains enough of the proper bacteria to start them in the tank, and in a few weeks they become established of themselves in sufficient numbers to act efficiently upon the sewage.

It seems almost impossible to advise how large a tank to build for a family septic tank, but to be safe I would not advise building one of less than six-hundred-gallons capacity. The intake pipe



When you Build or Repair remember that the most durable and economical material is concrete, also that

ATLAS PORTLAND CEMENT

Makes The Best Concrete

OUR FREE BOOK "Concrete Construction about the Home and on the Farm." Contains over 100 drawings and illustrations of concrete houses and suggestions to the prospective builder.

The ATLAS Portland CEMENT Co., Dept. 122, 30 Broad St., N.Y.

ATLAS, the cement bought by the U.S. Government for the Panama Canal.

should be just above the level of the water in the tank, and a trap should be constructed, to prevent the escape of gas or to admit air. At the outlet some means should be provided to keep back the scum which forms on the surface of the sewage. It should be made air and water tight and an opening left to remove when cleaning it. W. MILTON KELLY.

Starting With a Ten-Acre Farm

I THINK from my own experience that a great many people make a mistake in trying to get too much land at first, when they are young and have not had the experience that is necessary for success with a large farm.

When I was a boy I used to work for the neighbors for twenty-five and thirty cents a day, and had to work hard to satisfy the man that I was working for.

As I grew older it appeared to me that I could run a little business of my own, but as I was a poor boy I hardly knew how to get started. However, I determined to try it and see what I could do. So, at the age of eighteen, I fell in love with a little farm of ten acres, that was only a few miles from where I had been working, and made a deal for it, giving (or rather promising to give) one thousand dollars for it. As many young men must do to-day, I went in debt for that little farm, and thought I had made the biggest deal that ever was made. It was too big for me, as it took me several years to pay for it.

At the age of twenty, seeing that I could not run business by myself, I took the girl of my choice, and we started with this little ten-acre farm, to pay for it and make a living at the same time.

We both worked hard, as any one knows it would naturally require very hard work and good management to begin in debt and having just one old "hoss" to do the work, to successfully run any farm. Of course, we did not make much of a showing for the first year, as we had no way to do much. But the second year I knew I must have a team that could work if I ever made anything, so I bought a good team of mules and began to get down to business. We tried to raise everything we had to eat, and wore as few clothes as possible. Of course, on this little farm it was necessary for us to raise crops in the garden line for market, as it was out of the question to try to make money out of such crops as wheat or hay.

We devoted a small piece of land to onions, which always bring a good profit. We had some berry-patches, which made good money for us, and we raised all the chickens we could with hens for incubators and brooders.

Five years after we were married we found ourselves out of debt by selling the mules, and had the large sum of twenty dollars besides. We thought this was doing well, and turned around and bought another team on credit.

By this time we were getting where we could begin to do something, and in a few years we added another ten acres to our farm. This made twenty acres in all, and I have seen better land than some of it was, for it had to be built up before I could raise much of anything on it. I still make a specialty of gardening, with the addition of dairying, which has been very helpful to my farm. As the years roll on, by adding a little at a time as we can pay for it, we find we have a farm of two hundred acres of as good land as there is to be found anywhere in this country. We do not confine ourselves absolutely to any one special line, but aim to raise as nearly everything in a general line as possible. We try to raise a good many sheep every year, as I think there is good money in them, and they are about the best soil-improver that I know of.

I have a nice little orchard of twenty-five acres just coming into bearing good that for the last two years has paid me the sum of two thousand dollars each year. This of course is not extra big for the orchard, but it is not doing its best. Of course, about one third of this is deducted for expenses, which leaves me a handsome little amount besides. I still hold onto my berry patches, and have made as high as one hundred and fifty dollars an acre from some of my best ones. In conjunction with this, my dairy of from ten to twenty-five cows pays me a good little amount, besides furnishing a great amount of very fine fertilizer for my farm.

The hogs of course must not be left out, as they work so well with the dairy and gardening business. My good wife has not forgotten her poultry, but has discarded the use of sitting hens for incubators, as the incubator is so much more profitable.

To raise the feed for all of the stock that is now kept on my farm, I find it necessary to keep from one to five hands at work all the time. When the busy season is on it calls for more labor, but as the rush goes off I can retrench in the labor bill. I should think it would be folly for most any young man to try to run a farm in this way, for I know from my own experience there are things that can only be learned by experience, and it usually takes more than one or two years to gain this experience. It took me several years, and I find that still there is plenty for all of us to learn, as the wisest men are just beginning to learn a little.

In conclusion I want to say to the young man: Don't be discouraged if you have only five or ten acres. This will give you the necessary experience, and as you gain a little at a time you can add more land if you want it.

I always find that the cash will buy the land, and when the land is properly managed it will bring in the cash. If you have a desire for farming and are shy of cash, just buy a small farm on time and properly manage it and you will be all right in the end. R. B. RUSHING.

Mulch Treatment Versus Cultivation for Raspberries

I HAVE been so successful and so well pleased with the results of a system of mulch treatment of raspberries, especially with those of the blackcap sorts, that I am prompted to recommend a trial of this method for your readers.

The idea was first suggested to me by a statement taken from an address by J. H. Hale, of Connecticut, in which he said to secure best results from raspberries of this class he would put on all the fertilizer he thought he could afford, then shut his eyes and put on as much more. This being his advice, it occurred to me that there was little danger of overdoing them by heavy mulching with coarse manure; then, too, my own observation had taught me that in a state of Nature with the blackcap berries the largest yields and the finest fruit were almost universally found in some rich hollow or corner where a natural heavy mulch of forest leaves had accumulated from year to year, and I decided to try the plan.

I began by applying in early winter, with a view to both winter protection and as an aid in retaining moisture in summer in case of drought during the season of ripening fruit, a very heavy coat of strawy stable manure, sufficiently so, that when it had partially decayed during the ensuing season it was yet enough to keep down the growth of grass and weeds, and thus answer the double purpose of cultivation and added fertility.

The yield and quality of fruit were so entirely satisfactory that I continued the practice from year to year, and always with continued success, and I now have no hesitation in saying that for myself at least, and on land that is rather dry, I can secure a much better yield of finer fruit by this plan than by any other.

One thing I have found, too, is that by this method the same plantation can be kept longer in good bearing condition than by any other, and I have been able thus to secure a good yield of blackcaps on bushes that have been planted and borne continuously for ten consecutive years.

I would not speak with as much confidence for this plan in the growth of red raspberries or those of the sucker class, as I believe it possible with these to make your land rich enough to induce too strong plant growth for best results in fruit-production, but I believe with Mr. Hale that this is hardly possible with the varieties that reproduce from the tip.

E. J. BROWNELL.

Potato Culture

SINCE our potatoes made the heaviest yield last season of any in the community, we are vain enough to think our method of raising them will bear following.

Clover sod is best for potatoes, and fall-plowed land ranks next, but neither of these are often available, in which case plow the ground thoroughly in the spring, as early as possible. Don't be afraid of stirring too deep. Once a week, at least, go over the ground with a harrow. This loosens up the soil, and keeps the weeds down till planting-time. After danger of frost is past, mark the ground off in rows thirty inches apart—wider if desired.

We hand-cut our seed, intending to leave two eyes to each piece, and drop two pieces to a hill, which gives a stand of four plants in each hill. This is sufficient for a heavy yield, and many farmers make the mistake of getting their potatoes too thick. Don't do it!

Some prefer to drop the hills sixteen to twenty inches apart, but better results will be obtained by dropping thirty or more inches apart, leaving the plants so they may be cultivated both ways. It takes a very little longer to plant this way, but it gives the plant more room in which to flourish, keeps the ground thoroughly loosened, makes tending easier, and cross-plowing may save you many an hour's hoeing.

We cover the seed with a hoe, by hand, to a depth of from two to four inches, according to soil, and find this more satisfactory than plowing under with a plow, as it insures more uniformity in covering and in the plants coming through the ground.

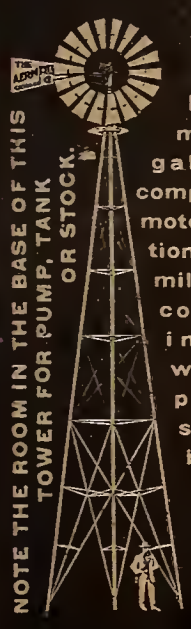
After planting, harrow the ground at least once a week, first lengthwise, then crosswise, till the plants are three or four inches high. Let them stand two or three days, then begin tending with a cultivator, ridging them up well to protect the tender tubers, and laying them by just as they begin to bloom.

Try a stand of millet in your potato-patch after the last plowing, and watch it smother out that crop of late weeds, besides doubling your profits.

M. ALBERTUS COVERDELL.

AERMOTOR PUMPING DEVICES

Are known and used the world over. Hundreds of thousands of AERMOTORS in use. Thousands of GASOLINE PUMPS in use.



$25 Buys an 8-ft. Aermotor. This is the galvanized-after-completion steel Aermotor which revolutionized the windmill business. It contains every improvement which wide experience has shown to be desirable.

The Aermotor Gasoline Pump is easily attached to "any old pump" in 30 minutes. The engine and pumping gears are assembled in one simple, compact and durable machine which is complete in every detail and ready to set up and go to work. It will pump as much water as an 8-ft. windmill and will run as many hours a day as you desire

We make so many of these engines that we have put in the facilities for building them perfectly.

We are almost ashamed of so low a price on an engine so well designed and so well built, but we are proud of the engine.

No other pumping device ever gained such great popularity or reached such great sales in so short a time

PRICE $37½ For engine complete with walking-beam and supporting frame.

$27 Buys a 30-ft. Trussed Tripod Tower with unobstructed base.

This does not appear again. Write now for circulars and testimonials.

You can afford to have one of these on every well.

It occupies very little room, requires little attention, and gives a large amount of service. The supporting frame is clamped to the pump standard, making a very solid and compact arrangement.

These attachments have been devised to provide the easiest, quickest and most substantial way for connecting to any style of pump which is already in the well. Everything is supplied for setting up complete as shown, except the stakes.

AERMOTOR CO., Campbell Avenue and 12th Street, CHICAGO

POTASH

Not only increase of quantity, but also improvement in quality, is the result of applying **Potash** to

Potatoes

The use of about 10 per cent. of **Potash** in your commercial fertilizer produces sturdy vines and smooth, solid tubers that bring top prices in the market.

Potash is Profit

Valuable literature, FREE on fertilizing POTATOES and all other crops.

GERMAN KALI WORKS
93 Nassau St., New York
Chicago—Monadnock Block
Atlanta—1224 Candler Bldg.

Nitrate of Soda

In Original Bags

NITRATE AGENCIES COMPANY

64 Stone Street, New York
Keyser Building, Baltimore, Md.
36 Bay Street, East, Savannah, Ga.
305 Baronne Street, New Orleans, La.
140 Dearborn Street, Chicago, Ill.
1103 Temple Bldg., Toronto, Canada
San Jose, Cal.
321 Stimson Block, Los Angeles, Cal.
603-4 Oriental Block, Seattle, Wash.

Perfumery Gardening

In the highly profitable and pleasing work of growing the beautiful ORRIS PLANT for its perfumed roots and fragrant blossoms, the ladies and children have the chance to make as much money from a few rods of garden ground as the men folks can from as many acres devoted to farm crops. Write today for FREE sample of naturally perfumed root and our special Introductory Offer on Orris plants.
THE GARDNER NURSERY COMPANY, Box 322, Osage, Iowa.

10 POST CARDS GIVEN

We will send you 10 of the grandest and newest souvenir post cards you ever saw if you'll send your name and address with 2c in stamps to pay postage and mailing and say that you will show them to 7 of your friends.
SIMMONS PUB. CO., Washington St., Springfield, O.

Gardening

By T. Greiner

Self-Blanching Celeries

I have repeatedly mentioned Chicago Giant celery as a remarkably thrifty sort of remarkable tenderness. The seed as I got it from the introducer in Chicago last year was easily twice as large as ordinary celery-seed. The plants came up strong and grew vigorously. This year, however, the seed of this new sort, as I had it from the same seed firm, is even smaller than ordinary celery-seed. I have samples of White Plume seed of double the size of this Chicago Giant celery-seed. The latter came up feebly, while White Plume made twice the growth in the same time and under otherwise the same conditions. I am a little afraid that Chicago Giant will not give me the tremendous stalks and the unbounded satisfaction that it did last year. On new things we are never safe to pronounce a final verdict as to their worth before they have been tested a number of years.

To Raise Good Turnips

A reader in the Conneaut Creek Valley, Pennsylvania, reports that in the hill gardens surrounding his town which have a clay soil, rutabagas can be grown to perfection, but in the valley, on a rich alluvial soil, the plants form long woody necks with fine tops, but no edible roots. Carrots and parsnips do nicely. Could I suggest a remedy?

Swede turnips or rutabagas are perhaps more particular as to soil conditions, and often more difficult to raise in perfection, than any other root crop. Often we can raise immense crops of flat (strap-leaf) turnips on a piece of ground which will yield just such rutabagas as described by our reader. The fault lies probably in an excess of nitrogen in the soil, or a comparative shortage of the mineral elements of plant-food. At times liberal applications of potash and phosphoric acid, either in the form of wood-ashes reinforced with acid phosphate or bone-meal, or in the form of muriate of potash and acid phosphate or other forms of available phosphoric acid will give relief, and good turnips. Try such applications, and also try the flat turnips.

Succession or Companion Cropping

A reader in Connecticut writes that undoubtedly many subscribers who live in the suburbs would appreciate some information on how to raise two or three crops the same season. "My lot," he says, "is forty by one hundred and twenty-five feet. So you see I do not have much room to spare."

A very pertinent question indeed! In order to make the most of a city and village garden, close and successive planting is necessary. And yet too much can easily be attempted in this line, and the results may thereby be endangered.

Every vegetable, for its best development, needs a certain amount of space. In market-gardens, where we have plenty of room, and where convenience in cultivation counts for more than does the saving or close utilization of every square inch, we often plant further apart than is absolutely necessary to give each plant room for full growth.

In the small city or village garden we must plant close, but there is a limit. It seldom pays to make the rows for small stuff (radishes, lettuce, parsley, early carrots, spinach, celery and cabbage plants, onions, etc.) less than twelve inches apart; or for beets, kohlrabi, rutabagas, parsnips, etc., less than sixteen or eighteen inches apart; or for peas, early potatoes, early cabbages, etc., less than two or more feet apart.

Lettuce is sometimes closely crowded in solid beds or blocks; but this is leaf lettuce, and has not the value and the crispness and sweetness of solid heads as we can grow them by having the plants stand singly, say four to eight inches apart in rows a foot apart.

Radishes might be crowded in six-inch rows; but we can grow them as a companion crop between rows of beets, cabbages and cauliflowers, or even early potatoes, corn, beans, melons, peas, etc. Radishes grow quickly—provided we plant the early turnip-rooted or earliest forcing sorts—and are out of the way when the other or main crop needs the room.

I find it a good plan, too, to mix a little radish-seed with carrot, beet and similar seeds, and sow both together. The radishes come up quickly, form edible roots in four weeks or less, and are out of the way within five or six weeks after sowing. We must be sure, however, to pull them all up in that time, so that they will not interfere with the main crop. I often grow a good lot of good radishes in this way in the rows of my stock beets.

We aim to have the early crops, such as lettuce, bunching-onions, radishes, also early cabbages, cauliflower, early potatoes, peas, etc., as early as possible, so as to get them out of the way in time to plant cucumbers, melons, turnips, celery, and perhaps other vegetables. We could grow early peas and set out tomatoes, egg-plants and peppers between the rows; but I prefer to have each of them alone, and to plant melons or other vines between the rows of peas, for which purpose the rows are put at least three feet apart.

Late celery can always be planted after a first crop, such as peas, early potatoes, lettuce, spinach, radishes, early cabbage, cauliflower, etc.

The gardener knows about how long it will take for any of these crops to come to maturity, and give him a chance to clear the field; and he can make his calculations accordingly concerning the crop to follow.

Buggy Peas and Beans

Mrs. A. C. V., a reader in Illinois, complains that her peas and beans saved for seed always get full of bugs after a few months.

They are liable to do that unless you take the precaution not to raise buggy beans and peas, and induce your neighbors also to abstain from doing that. It is easy enough. If you and your neighbors will not plant peas or beans with live bugs in them, and have no seed peas or beans with live bugs in them on the premises, you will not have bugs in the peas or beans you raise.

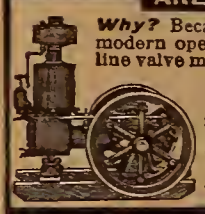
Seedsmen now generally subject their seed peas and beans to the bisulphid-of-carbon treatment, which makes short and sure work of all bugs in them. If you raise your own seeds of these vegetables, put them in tight paper bags and sift some insect-powder (buhach being best) over it, or a good quantity of tobacco dust; or, better, put the peas or beans in a tight vessel, place a saucer on top of them, and pour in a tablespoonful of bisulphid of carbon—a very volatile and inflammable bad-smelling liquid—quickly covering the vessel with a close-fitting and tight cover. This will kill all live weevils that may be inside of the peas or beans. Never, under any circumstances, plant peas with live weevils in them!

Cheap Tennessee Farms Making Men Rich!

Fortunes are being made on fertile Tennessee farms. They raise big crops of Cantaloupes, Cabbage, Tomatoes, String Beans, Green Corn, etc., also Horses, Cattle, Sheep, Swine, Poultry and Eggs. Write me at once for Free Literature. I'll tell you how to get one of these splendid farms for $5 to $20 per acre. Act quickly!
H. F. Smith, Traf. Mgr. N. C. & St. L. Ry. Dept. S, Nashville, Tenn.

LAND in best district of Canada, prairie, near new railway, timbered homesteads, free maps, address SCANDINAVIAN - CANADIAN LAND CO., 172 Washington St., CHICAGO

Stickney Gasoline Engines ARE THE BEST



Why? Because of the outside igniter, modern open cooling system, straight-line valve motion and ball-bearing governor. Thousands in successful operation because of our years of experience in building the best. Seven sizes: 1½ to 16 H.P.
Send for our Free Catalog and our Catechism telling fifty-seven reasons why *Stickney Engines are the Best.*
Agents everywhere sell them.
Charles A. Stickney Company
MAIN OFFICE & FACTORY ST. PAUL, MINN.

MAKE MONEY for FARMERS

It is easy to make lumber for yourself and neighbors with an AMERICAN mill. All sizes. Work rapidly with light power. No experience needed. Get Free Catalogue and Low Prices.
American Saw Mill Mach'y Co.
130 Hope St., Hackettstown, N. J.
1576 Terminal Bldgs., New York

Take Off Your Hat to the MYERS
The only Glass Valve Pump—never sticks—never fails—always ready. Also HAY TOOLS, Barn Door Hangers, Hay Rack Clamps. Write today for Circulars and Prices.
F. E. Myers & Bro., 30 Orange St., Ashland, O.
THE PUMP THAT PUMPS

These New Towns in the Northwest All Need Men

Hundreds of new towns are springing up all over the Pacific Northwest.

The big, easy fortunes being made from fruit, farming and stock-raising, are making these towns grow fast. They all need men who know trades—they need you, whether you have money to invest or not.

Never, in the history of America, has the man who works with his hands had such a chance to make money, as is offered in the west today.

You Are Losing Money Every Day You Stay in the East

You would not stay another day in the worn-out East, if you knew even half the truth about the great Pacific Northwest.

Families, who went there penniless 5 years ago, are spending this winter in California. They bought good land at low prices—paid for it gradually—today are independent.

Opportunities are greater now than ever, because the country is more developed.

Ask us on a postal to send you our free book, telling you all about Oregon, Idaho and Washington. We'll also tell you what it costs to go there.

E. L. LOMAX, G. P. A.,
Union Pacific Railroad Company
Omaha, Neb.

Fruit-Growing

By Samuel B. Green

Scale on Apple-Tree

C. F. McD., Winchester, Ohio—The specimen of bark of apple-tree which you sent is infested with what is known as scurfy scale. I see no San Jose scale upon it. This scale does comparatively little injury and is easily destroyed. Sulphur-and-lime wash would destroy this scale, as well as the San Jose scale, but it is a rather expensive mixture to make and difficult to apply satisfactorily.

I am inclined to think that the best remedy you can use is strong potash lye or whale-oil-soap solution. In applying either of these, care should be taken to force it into the bark, and if the trunk of the tree has considerable moss upon it, I would scrape the loose bark and moss with a sharp hoe before applying the remedy recommended. I should prefer to treat the scale before growth starts in the spring.

Pruning Shrubs

C. W., Cincinnati, Ohio—As a general rule, the best time to trim shrubs like lilac, spice-bush, forsythia, and other plants that bloom in the spring, is immediately after they are through flowering, but in the case of the lilac it is a good plan to remove all the sprouts from around the old stumps from time to time, as you can get to it. It matters little at what time of year this is done. If the sprouts around lilac-bushes are not removed, the bushes will frequently fail to flower, while if these are kept away, they generally produce flowers in abundance.

If lilacs are growing in a shady place, then, too, they seldom flower well. Most of our flowering plants do best in full sunlight. Lilacs need little pruning aside from keeping the sprouts away from their stems. It is a good plan, however, to cut off the old flower clusters as soon as the flowering season is over. In the case of spice-bush it can be pruned to best advantage immediately after it is through flowering, but there is no harm in doing some pruning early in the season, although, of course, in cutting out much wood at such a time, the flowering buds are removed, and in the season of flowering the branches are not so pretty.

In regard to the honeysuckle which is growing over the porch and which you have cut down, there is nothing gained in planting out another, unless it is some different kind. If there are good sprouts from the root, these can be used to form a new vine, but if you wish to destroy it you can keep the sprouts cut off as they appear during the summer. If this is persistently followed for one season it will be destroyed.

Trees to Plant When Soil Conditions Are Unfavorable

L. C., Oshkosh, Wisconsin—I can hardly recommend that you plant a commercial orchard on land that has a sandy subsoil, unless there are several feet of good clay top-soil, but for home use I think it quite the thing to put out an orchard even in a rather unfavorable situation, since it is very desirable to have fruit for home use.

It is customary at the North to set out trees three years old, but where thrifty two-year-old trees can be obtained, I think they are just as good as the three-year-old.

Apples should come into fruit in three or four years or less, but will not produce a full crop for seven or eight years. I think you will rather enjoy seeing them come along, even if you don't live to partake of their fruit. For an unfavorable location in your vicinity I would recommend the following apples: Duchess of Oldenburg, Wealthy, Patten's Greening and Whitney. The Compass cherry is a valuable little fruit, but in some locations it is so badly affected with rot as to be a failure. On this account I would prefer to plant the native plums, unless the trees are to be sprayed each year to keep down the rot. Among the best of these are De Soto, Surprise, Wyant and Stoddard.

The Norway poplar or Carolina poplar would, I think, grow well upon any good soil. The fact that water stands on it for a couple of weeks in the spring before growth starts would not be any serious objection to the planting of this tree, as it stands very well under such conditions. We have no tree of any value that will grow in extremely wet soil. I think, however, that if the land is adapted to the sweet grasses, you can probably grow white willow on it, which will be good for stock protection. The so-called swamp-tamarack, while a valuable tree, does not make a rapid growth when grown on land having a large amount of water on it each year. I have seen trees of this stunted form of tamarack that were seventy-five years old and not over three fourths of an inch in diameter. The golden willow and gray willow will do well anywhere that good grasses will grow. If the soil is very wet, it is a good plan to make a small pile of earth and set the cuttings in this, on top of the general level of the soil.

I should certainly protect all fruit-trees from sun-scald in your section. I feel that it is absolutely necessary to do so, and as the expense is but a trifle, one cannot afford to neglect it.

The Norway Poplar

E. S., Montevideo, Minnesota—I am unable to distinguish definitely between the true Norway poplar and the Carolina poplar. I am of the opinion that there is some difference, but it is very slight under some conditions. The trees are undoubtedly of the same species, but I think are distinct varieties. In my experience the Norway poplar has grown faster than the Carolina poplar.

Curly Leaf of Raspberry

L. R. C., Weston, Maine—I think I know what you mean by the term "curly leaf" as applied to some disease of the raspberry. Some varieties are very susceptible to it and are quickly destroyed; others resist it for a number of years, but if the plants become weak, as is generally the case under cultivation, they are liable to be injured.

There is no satisfactory remedy, and even the history of the disease has not been carefully worked out. It is certain that diseased plants should not be used for new settings. Occasionally, patches of raspberries affected with this disease have seemed to recover, but this is unusual. This disease is more troublesome some years than others.

I think the best thing for you to do is to get a supply of plants from plantations having no trouble of this kind, and then to set them out in clean soil that does not get any wash from the soil that has the diseased plants on it. This disease is characterized by the foliage curling up and the berries becoming dwarfed and bitter to taste.

Apples Injured by Hail—Varieties to Plant

A. B., Spring Valley, Minnesota—I am sorry to know that so many of your apple-trees were injured last summer by the hail-storm. If the trees retained their leaves and vigor, so that they ripened up well in autumn, the chances are that if they are cut off at the top of the ground they will make a fairly satisfactory new growth. I would prefer cutting them off just at the top of the ground to cutting them any higher. Of course, the sprouts that spring from near the surface of the ground must be thinned out, leaving only one to grow and make the new tree.

Treated in this way, I think you will get fairly satisfactory results. Bear in mind, however, I say if the trees are well established and strong I would do this. If they were very much weakened and seem to have no vigor left after the pounding they had with the hail, then I should be disposed to dig them up and plant anew.

I am afraid the Lowland raspberry apple will not be profitable on account of its being a rather shy bearer.

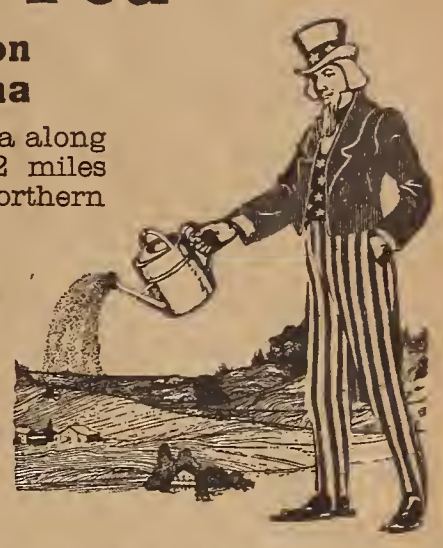
I am also inclined to think that there is about as much profit to be obtained from Duchess of Oldenburg, Okabena and Patten's Greening as from any three varieties I know of that can be grown in your section. Of course, where the Wealthy does well, it, too, is a very profitable variety. I think I should try a few Evelyn, which is a new variety of promise. It is a seedling of the Wealthy and closely resembles it, and I am inclined to think it is a little better in tree.

If you are going to top-work, probably the best variety that you can plant out for this purpose is the Hibernal, but the Duchess and Okabena are also good, vigorous stocks for top-working.

Our guarantee of advertising means much to every subscriber. The mere mention of FARM AND FIRESIDE in your letter will insure you prompt and courteous attention from every FARM AND FIRESIDE advertiser.

Uncle Sam is Watering A Farm for You

Huntley Irrigation Project—Montana



33,000 acres in southern Montana along the Yellowstone River about 12 miles east of Billings, Montana. The Northern Pacific Railway traverses the full length of the tract east and west.

It is a delightful climate. The soil is very fertile. Irrigated lands produce abundant crops. Cereals, alfalfa and sugar beets are principal crops now, apples, small fruits and vegetables are coming in. Alfalfa is sold at the farm to surrounding ranchmen and yields good profit. Big sugar factory at Billings assures good revenue an acre from beets. Market for fruit and vegetables right at hand and results very encouraging.

A large part of this land subject to Homestead entry under reclamation Act of Government Land Office, Billings, Montana. Initial fees about $5 an acre and annual payment of about $4 for ten years secures title. Such land under cultivation in this section is now worth $75 to $200 an acre and the increase in land value in that time assures success. The lower Yellowstone project adjacent to Glendive, Montana, will water about 60,000 acres of land—two thirds in Montana and one third in North Dakota. Private projects at Billings, Forsythe, Miles City and Glendive also present attractive opportunities.

Northern Pacific Railway

is anxious to assist in locating settlers in this territory and will gladly give information. The Flathead Indian Reservation, west of Missoula, Montana, will probably be opened for entry this year. It contains practically one million acres of land suited to agricultural development and grazing.

Homeseekers' Tickets sold on first and third Tuesdays of each month. For time of train, fares, etc. write to
A. M. CLELAND,
Gen. Passenger Agent.
Room 64, Nor. Pac. Bldg.
St. Paul, Minn.

NORTHERN PACIFIC
YELLOWSTONE PARK LINE

For Homeseeker's information and literature write to
C. W. MOTT,
Gen. Emigration Agent
Room 64, Nor. Pac. Bldg.
St. Paul, Minn.

A GUIDE TO THE LAST WEST

Copyright, 1907, by J. F. Loss.

Let Us Guide You to Canada, Where One Crop Pays for Your Farm

The Tramping Lake District of Saskatchewan is famous as a wheat producing section. Here the wheat yields 22 to 58 bushels per acre. Last fall the lowest yield, (machine measure) of oats on one farm, was 52 bushels, and the highest, 107 bushels per acre. Oats run from 3 to 7 pounds heavier per bushel by weight than by measure. Flax yields from 18 to 26 bushels per acre, and barley from 40 to 55 bushels. Vegetables grow to magnificent size. 95 cabbages have been known to make a ton, while single specimens ranging from 27 to 30 pounds are not uncommon.

Come to the Tramping Lake District

Our prices are most liberal—$15.00 per acre. You make your selection from our entire tract of over 100,000 acres—pay down one-third, and the balance in five equal annual payments at 6% interest.

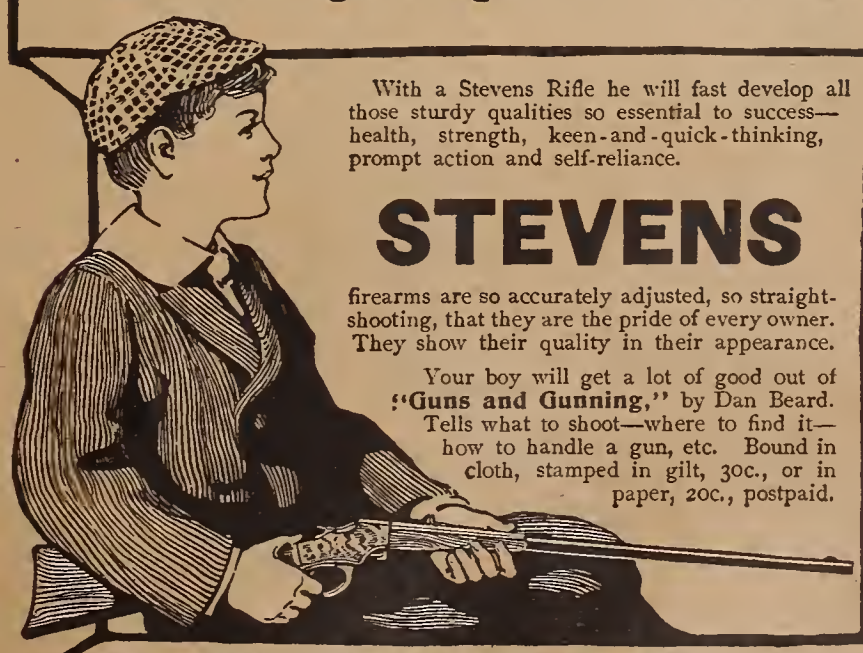
Break 10% or more of your land, the first year and we will grant you upon request, an extension of twelve months on all payments of principal.

We own our own private Pullman cars, with dining service and observation parlors. Excursions run the first and third Tuesdays of every month.

Write us for round-trip rate. Send for our free booklet, beautifully illustrated, entitled, "A Guide to the Last West."

LUSE LAND & DEVELOPMENT CO., LTD.,
Main Office, 210 Germania Life Bldg., St. Paul, Minn.

Your boy will be far better off for the fun and training he'll get with a Stevens



With a Stevens Rifle he will fast develop all those sturdy qualities so essential to success—health, strength, keen-and-quick-thinking, prompt action and self-reliance.

STEVENS

firearms are so accurately adjusted, so straight-shooting, that they are the pride of every owner. They show their quality in their appearance.

Your boy will get a lot of good out of **"Guns and Gunning,"** by Dan Beard. Tells what to shoot—where to find it—how to handle a gun, etc. Bound in cloth, stamped in gilt, 30c., or in paper, 20c., postpaid.

Send for the Stevens Catalog—it will help you immensely in selecting a rifle, shotgun or pistol. Six cents for postage brings it. Ask your dealer and insist on STEVENS. There are no substitutes. If you cannot obtain, we will ship direct, express prepaid, on receipt of catalog price.

J. STEVENS ARMS & TOOL CO., 265 Grove St., Chicopee Falls, Mass., U.S.A.

The best Advertising the Goodhue Windmill can have in any locality is a heavy wind storm

BECAUSE, although easy to erect, it is hard for the wind to down—it has a governor that works perfectly in all kinds of weather—the wheel has double arms of heavy channel steel giving more than double strength—it has a practically noiseless brake—it is erected on a tower guaranteed against CYCLONES AND TORNADOES—and because in every way

Goodhue Windmills are Good Mills

So sure are we of our ground, that, for a nominal fee, we will insure the complete outfit, mill and tower, for five years, against anything and everything. Write today for free wind mill book. APPLETON MFG. CO. 9 Fargo Street, Batavia, Ill., U. S. A.

Protect Your Chicks

They have the snug, warm, dry quarters in this Sanitary Brood Coop that keeps off the dreaded roup and makes them

Safe from Rats, Mink, Weasel, Lice and Mites

All galvanized iron and steel. No other brooder anything like it. Exclusive pattern made and sold only by us. Adds 100 per cent to profits, keeps down cost and expense of poultry raising. Shipped knock-down. Easily stored.

Write for free booklet today fully describing this coop; also our Metal Feed Coops, Combination Trap, Laying and Sitting Nests, Non-Freezing Drinking Fountain, Egg Carrier and Medicated Charcoal.

Des Moines Incubator Co., 254 Third St., Des Moines, Ia.

WHAT YOUR MONEY BOUGHT 10 YEARS AGO TODAY

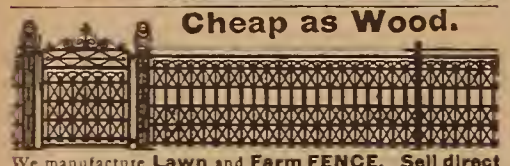
GREAT WOOD PRESERVER

The high cost of lumber now makes it necessary to preserve wood from rot, early decay and worms.

AVENARIUS CARBOLINEUM Registered doubles the life of wood. Guaranteed. 30 yrs. on market. Nice color. Ready for use. Easily applied. Freight prepaid. Write for circulars.

Carbolineum Wood Preserving Co., Dept. 96 Milwaukee, Wis.

Cheap as Wood.



We manufacture Lawn and Farm FENCE. Sell direct shipping to users only, at manufacturers' prices. No agents. Our catalog is Free. Write for it to-day. UP-TO-DATE MFG. CO., 971 10th St., Terre Haute, Ind.

Write us for Booklet showing Hundreds of Designs At all prices. Include iron reservoir vases, settees, fountains, tree guards, stable fittings, etc. Iron fence improves the appearance of your home—is cheaper than wood and permanent. No repairs. Agents wanted.

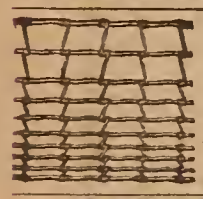
THE STEWART IRON WORKS CO. CINCINNATI, O.
1721 Covington St. The Largest Makers of Iron Fence in the World.

FIX YOUR ROOF

5c Per Square.—We will guarantee to put any old leaky, worn-out, rusty, tin, iron, steel, paper, felt, gravel or shingle roof in perfect condition, and keep it in perfect condition for 5c per square per year.

Roof-Fix The Perfect Roof Preserver, makes old, worn-out roofs new. Satisfaction guaranteed or money refunded. Our free roofing book tells all about it. Write for it today.

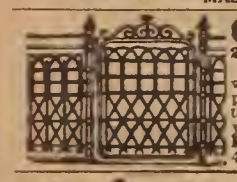
The Anderson Manufacturing Co., Dept. 19 Elyria, Ohio



48 IN. FENCE a rod 29c

Best high carbon coiled steel wire. Easy to stretch over hills and hollows. FREE Catalog—fences, tools. Buy from factory at wholesale prices. Write today to Box 86.

MASON FENCE CO., LEESBURG, O.



ORNAMENTAL FENCE

25 DESIGNS, ALL STEEL. Handsome—cheaper than wood—more durable. Special prices to churches and cemeteries. Don't buy a fence until you get our free catalogue.

Kokomo Fence Machine Co., 487 North St., Kokomo, Ind.

LAWN FENCE

Many designs. Cheap as wood. 32 page Catalogue free. Special Prices to Churches and Cemeteries.

Coiled Spring Fence Co. Box 403 Winchester, Ind.

WARD FENCE Farm and Poultry. Old fashioned galvanized. Elastic spring steel. Sold direct to farmers at manufacturers prices. Write for particulars.

Ward Fence Co., Box 532 Decatur, Ind.

PATENT SENSE and PATENTS THAT PROTECT yield our clients enormous profits. Write us for PROOF. Inventors lose *millions* through *worthless* patents. E. S. & A. B. LACEY. Dept. 28-38, Washington, D. C. *Estab. 1869.*

Poultry-Raising

Whitewash for the Poultry-House

THE making or mixing up of whitewash is not fully understood by every person. The following methods have proved themselves very good. By all means, if you have not already done so, make a whitewash and go over your poultry-houses this spring.

1. Slake in boiling water one half bushel of lime, keeping it just fairly covered with water during the process; add to it one peck of salt dissolved in warm water, three pounds of ground rice boiled in water to a thin paste, one half pound powdered Spanish whiting, and one pound of clear glue dissolved in warm water. Mix the different ingredients thoroughly, and let the mixture stand for several days. If a less quantity is desired, use the same proportions.

2. A good whitewash for use upon outside work may be prepared as follows: Slake in boiling water one half bushel of lime, and strain. Add to this two pounds of sulphate of zinc and one pound of salt dissolved in warm water. If any color but white is desired, add about three pounds of the desired coloring matter, such as painters use in preparing their paints. Yellow ocher will make a beautiful cream color, and browns, reds and various shades of green are equally easily obtained.

3. Another excellent wash, lasting almost as well as ordinary paint, may be prepared for outside work as follows: Slake in boiling water one half bushel of lime, then strain, so as to remove all sediment. Add two pounds of sulphate of zinc, one pound of common salt, and one half pound of whiting thoroughly dissolved. Mix to the proper consistency with skimmed milk, and apply hot. If white is not desired, add enough coloring matter to produce the desired shade. Those who have tried this recipe consider it much superior, both in appearance and durability, to ordinary washes, and some have not hesitated to declare that it compares very favorably with good lead paints. It is much cheaper than paint, and gives the houses and yards to which it is applied a very attractive appearance.

ARCHIE E. VANDERVORT.

A Little Poultry Talk Together

A LADY out on a hill farm in Arkansas asks a bit of advice as to building up her business. She has some common stock and a few single-comb Brown Leghorns, doing well, I should think, from what she tells us as to the number of eggs she gets. She wishes to know if she had better get an incubator. Also something about increasing stock and marketing to best advantage.

Now the poultry business is just like all other kinds of business: It is a growth, steadily and surely, toward success. No one can launch out into it all at once and not be in danger of making serious mistakes. If one is to make mistakes, better make little ones than to undergo the crushing blows which follow great ones. They do not hurt half as bad and one may get over the effects of them a great deal more quickly.

So, were I to advise this kind friend, I would say, just keep on steadily as you are going, adding a little bit to your stock every year and making your buildings a little larger and more commodious, until at last you have reached the goal of desired success. That is good, healthy growth, and that always counts for more than what comes by fits and starts.

Then, to begin with, I would not get an incubator this season. They are rather complicated things to manage for one who is not experienced. If you can get to one and see how somebody else works it that knows how, you can get some pointers for by and by. You have a number of hens sitting now. They will give you about as many chicks as you can care for at present. Chicks hatched the old-fashioned way are fully as apt to be good, bright, healthy fellows, too. Sometimes incubator-hatched chicks are not quite so strong as others, particularly if one does not know just how to manage the machine and to care for the chicks after they are hatched.

It is a good plan to get a few eggs from pure-bred stock and introduce new blood into the flock that way. As you say, this is costly where one goes into it on a large scale, and I would not do it that way. As before, grow up with the business.

And as to the kind of hens to keep, that is a pretty hard question to answer. You remember what the old Indian said: "I am glad everybody does not think alike; because if they did, they would all want my old squaw!" What suits one person does not suit another. We must get the hens we like best about us. One likes buff; I do myself; one likes white, one black, one brown. You have some good hens in those five Brown Leghorns. We never had better hens to lay than those same Brown Leghorns. White Leghorns are just about as good and are preferred by many. But if, as you say, you would like some Orpingtons, and believe they would suit you best of all, then work into them. You will not make a mistake, so far as the breed is concerned.

I believe you would do better to ship your eggs away, from what you say. But get some reliable man in the city to handle them for you. Don't trust Tom, Dick and Harry to do business for you. That has brought gray hairs to many a head.

To wind up with, study your business carefully. You love the birds. You should win with them, and I believe you will. Only, don't get in too big a hurry. Be patient, and remember that all you learn for yourself is worth ten times as much as what anybody can tell you.

E. L. VINCENT.

Hens Pay Their Way

IN THE issue of February 25th there appeared an article by A. J. Legg on the labor cost of keeping poultry. He says that he does not write to discourage poultry-raising, but to put it on a businesslike basis.

Now I think Mr. Legg is going in the wrong way. He says that he kept an account of the labor cost of caring for fifty hens for twenty-two days, and finds that it was nearly two cents a month. He does not say how much the food cost, how many eggs were received, how much he received for them, or anything else.

I have a small flock of Barred Plymouth Rocks—seventeen hens—and am paying eighty cents a bushel for corn. I find that I can feed for a little less than one third of a cent a day by letting them have it at will, and on an average a bushel of corn produces twelve and three fourths dozen eggs. At twenty cents a dozen—that is the present price—I think my hens are paying their way and are worthy of all care and attention they receive at twenty cents an hour, and pay a good interest on the investment, too.

C. GERNERT.

Pithy Poultry Pointers

A cellar or cave is the best place for the incubator if it is operated in hot weather.

Even with but a few birds it is worth while to use trap-nests and know which ones are paying their board.

Bath-water in abundance is as good for ducks as dust-bath for hens. Breeding-ducks especially should be amply provided.

Encourage the fowls to follow the plow when breaking the sod. They will pick up many worms and bugs that would otherwise injure the crop planted, and convert them into eggs.

More careful attention should be given to the dressing, packing and shipping of poultry on the farm than is generally done. Uniformity is one great thing with market poultry, and generally the most salable is the medium-sized bird having a plump and shapely body.

Plenty of exercise is necessary for little chicks, but it is not best to allow them to run in the tall grass before the dew has dried away. They should be kept in the coop until after 8 A.M., then they can be turned out and allowed to run. If it is not desirable to allow the hen to run, stretch a long wire and tie the hen to a ring, so she can pass from one end of the wire to the other.

WM. H. UNDERWOOD.

Make Your Grounds Neat and Trim

The cost will be small and the increase in the value of your property great. At the same time you can make your home one of the show places of the community if you enclose your lawn and gardens with

Cyclone Ornamental Fence

Cyclone Fences are made in many beautiful patterns. They are strong—they are durable—they last a lifetime. They add to the appearance. They need little or no attention and never fail to please and satisfy.

Cyclone Double Top Ornamental Fence Fabrics are made of the best Bessemer steel wires, heavily and thoroughly galvanized. The corrugated pickets add greatly to the strength and long life of the fencing, and at the same time are much more beautiful than plain pickets. The two heavy cables at the top and the doubled pickets give

Strength Where Strength Is Needed

The Cyclone Farm Gate is light, strong and the high carbon structural steel tubing used in its construction makes it absolutely rigid and enables us to guarantee that it will never sag. It costs less than one wooden gate and will outlast a dozen. Our large output enables us to sell this gate for less money than the prices asked for inferior iron gates.

Send for our Free Pattern Book of Cyclone Fences, Gates, Tree Guards, Trellises, etc.

CYCLONE FENCE COMPANY, Dept. 109, WAUKEGAN, ILLINOIS.

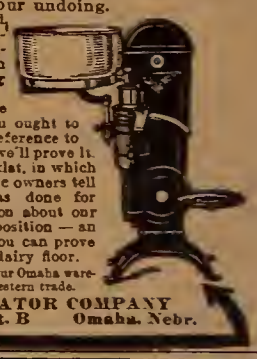
The GOLDEN ROD CREAM SEPARATOR

Here is a fact that means dollars and cents to you:—

Every sale we make is made on the guarantee that the Goldenrod will prove to be a better separator. And all these sales stick, as we have said—none of the separators comes back.

In other words, we meet and defeat competition. We prove that the Goldenrod gets all the cream—which means more cream than any other separator gets.

We prove that it works easier and better—because of its frictionless chain drive. If we didn't prove these things, the broadness of our claims—the sweeping character of our guarantee—would prove our undoing.



If we didn't make good on all our claims, our business would be going backward—instead of which our sales are increasing by leaps and bounds.

Give us a fair, square chance to prove that you ought to own the Goldenrod in preference to any other separator, and we'll prove it.

Write first for the booklet, in which thousands of enthusiastic owners tell what the Goldenrod has done for them, and we will tell you about our special free trial proposition—an arrangement whereby you can prove our claims on your own dairy floor.

Competent Agents Wanted. Our Omaha warehouses promptly supply Western trade.

MERIT SEPARATOR COMPANY
Oxford, Pa. Dept. B Omaha, Nebr.

THE CLEANEST THE LIGHTEST TOWER'S FISH BRAND THE MOST COMFORTABLE

POMMEL SLICKER

and cheapest in the end because it wears longest

$3.50 EVERYWHERE

EVERY GARMENT GUARANTEED WATERPROOF

A. J. TOWER CO. BOSTON, U.S.A.
TOWER CANADIAN CO. LIMITED TORONTO, CANADA.

Only $33.50 AND UP Galloway

"BATH IN OIL"

High Grade Separator—Direct

Save $25 to $50 direct at my factory price—freight prepaid. Get the only Separator that runs in "Bath of Oil," like a $5,000 automobile. This alone is worth $50 extra, but costs you nothing extra. Take

90 Days' Farm Test—Freight Prepaid

Why pay $85 to $110 to dealers or agents who cannot sell you a separator equal to the Galloway—closest skimmer—easiest run—easiest cleaned—10-yr. guarantee. Send for BOOK FREE

200 to 900 lbs. capacity.

WM. GALLOWAY CO.
743 Galloway Sta., Waterloo, Ia.

ABSORBINE

Removes Bursal Enlargements, Thickened, Swollen Tissues, Curbs, Filled Tendons, Soreness from any Bruise or Strain, Cures Spavin Lameness, Allays Pain Does not Blister, remove the hair or lay the horse up. $2.00 a bottle, delivered. Book 1 D free.

ABSORBINE, JR., (mankind $1.00 bottle.) For Synovitis, Strains, Gouty or Rheumatic Deposits, Varicose Veins, Varicocele, Hydrocele. Allays pain. Book free.

W. F. YOUNG, P. D. F., 23 Temple St., Springfield, Mass.

Taught by Mail!

Veterinary

A veterinary Doctor makes good money. We teach you at home and give Diploma. Catalog sent free. Students enrolled at any time.

AMERICAN INSTITUTE OF VETERINARY SCIENCE, D6, CHICAGO

THE LARGEST AND BEST LINE OF WELL DRILLING MACHINERY in America. We have been making it for over 20 years. Do not buy until you see our new Illustrated Catalogue No. 15. Send for it now. It is FREE.

Austin Manufacturing Co., Chicago

$29.50 Buys the Best

Improved Illinois Low Down Cream Separator

direct from the maker to you. We are the only western factory selling direct to the consumer. We ship on 50 days free trial. Write for free catalogue.

American Hdw. Mfg. Co., Dept. 172, Ottawa, Ill.

WELL DRILLING Machines

Over 70 sizes and styles, for drilling either deep or shallow wells in any kind of soil or rock. Mounted on wheels or on sills. With engines or horse powers. Strong, simple and durable. Any mechanic can operate them easily. Send for catalog.

WILLIAMS BROS., Ithaca, N. Y.

DEATH TO HEAVES Guaranteed

NEWTON'S Heave, Cough, Distemper and Indigestion Cure. A Veterinary Remedy for Wind, Throat and Stomach troubles. $1.00 per can, of dealers, or express prepaid. Send for booklet.

The Newton Remedy Co. Toledo, Ohio.

PATENTS SECURED OR FEE RETURNED.

Free report as to patentability. Illustrated Guide Book, and List of Inventions Wanted, sent free.

EVANS WILKENS & CO., WASHINGTON, D. C.

PATENTS Watson E. Coleman, Washington, D.C. Books free. Highest references. Best results.

Live Stock and Dairy

Training the Farm Animals

THE training of all farm animals is one of the most neglected phases of the care of these animals. The Bedouin in his half-civilized state, whose estate is embraced in his horses and trappings, spends years of patient toil in training them for his use. The development of the animal under such training is wonderful, and as a result the Arabian stud, in its acquired and transmitted intelligence, is at the head of its race.

The advantages of having all breeding-animals well and thoroughly trained are obvious. The progeny of such animals are more tractable, have less natural fear of man, and have also many transmitted qualities, adding greatly to their intrinsic value. We, too, should improve the social nature of our farm animals by careful training and breeding.

On the contrary, the vices of animals are quite certain to appear in the offspring, hence we deem it essential that all animals used for breeding purposes, male or female, be trained and domesticated and taught to handle well and have no fear of man. In this way the value of the animals may be greatly increased and their care made more pleasant and satisfactory. In training animals it is necessary that we understand thoroughly their nature and habits. One may be nervous and shy and start at the rustle of a leaf or a strange noise or unusual sight or sound, while another has full confidence and can be trained to perform almost any feat at the bidding of man.

Examples Show What Training and Breeding Can Do

The Jersey cattle in their native environment are an example of what breeding and training will do. On their native island they are cared for mostly by women and children, and are accustomed to being petted and fondled, but when placed in the hands of a poor herdsman, where they are treated as common scrubs, they soon degenerate into nervous and much-impaired animals. All careful herdsmen have noted the difference in the temperament of various animals. Some are nervous, fretful and ruinously spirited, and others are quiet and cool, as though they were endowed with reason.

The shepherds of Judea have for centuries trained their flocks to herd; they follow their shepherds "into green pastures and by the side of still waters;" each animal knows its name and answers the shepherd's call. The American herdsmen could gain by copying the methods of those Oriental herdsmen.

The brood-sow is an animal that should be trained to be quiet and not fear the herdsman. I have had considerable experience handling brood-sows, and I believe that in most instances cross sows that lose their pigs are a result of poor training or mismanagement on the part of the herdsman. It pays to be on good terms with the sow about farrowing-time. Some call it a corn-cob acquaintance; but whatever it may be called, it is the means of saving many valuable pigs.

The training of domestic animals should begin when they are young. Growth and training should proceed together. In training animals, strategy will prove better than brute force. Habit is with animals, as with man, an iron-handed master. Animals designed for various purposes may be trained until their functions are performed as a mere habit. In fixing habits, great care must be used that bad ones are not taught. All animals of high breeding are highly nervous in temperament, but learn readily and remember well.

A habit, whether vicious or otherwise, once learned will be returned to or practised by such an animal long after it is supposed to have been forgotten. "Good spirits" in all kinds and breeds of animals is a significant term and is well understood by all competent herdsmen, and should be preserved. This condition cannot be maintained in any animal when not properly trained, fed and cared for. Even a prize brood-sow or boar should have good spirits, an elastic step, a quick, gentle eye, and handle well before the judges at the show-ring. It requires training to produce a good show animal. Disposition, kindness, action and appearances, all count in the show-ring, and may all be greatly improved by good training on the part of the herdsman who has charge of the animal exhibited.

One of the first essentials in early training is to bring the animal to depend upon the herdsman. Food, water, care and training should mainly be performed by one person. A feeling of dependence instead of independence should be cultivated. There should be a strong friendship, a familiar acquaintance and the fullest confidence of the animal. The dog, our best-trained animal, comes at his master's bidding, is held in check by his voice without halter or rope, and obeys a beck or signal even when excited or impatient. The same may be done with the horse or other animals with the same long-continued pains and care, the same friendly feeling, the same fondling and interchange of love and affection.

There need be no fear of unreturned affection. All of our domestic animals love naturally the hand that cares for them and the voice that calls them. One half of the labor required in caring for them is accomplished when the animals have confidence in, and also have a thorough understanding with, the herdsman. Such confidence is always sought by good, capable herdsmen, men who understand all of the influences governing animals, no matter how well and thoroughly they may be trained.

No demand should ever be made of an animal with which it cannot readily comply, and any and all demands must be enforced. The herdsman never suffers in the estimation of any animal when he succeeds in enforcing his demands, even if force is necessary to effect the wished-for result. It is necessary to teach all working-animals what the whip is made for, and after this is done it is seldom necessary to use it much. With horses and mules the whip should not be used in urging to higher speed. The best gait of all is a quick, nimble walk. Train all teams to walk up prompt. It is the best farm gait, and speed is rarely worth cultivating except in horses bred for that special purpose.

The Character of the Trainer

A man who is not thoroughly under self-control should not attempt to instruct animals. He cannot succeed well. The voice, the eye, the lip and motion betray the ungoverned man. How can he succeed in training and governing others when he cannot govern himself? When training animals the herdsman or trainer must never yield to the least sign of impatience, passion or anger. When you have trained an animal you have accomplished a victory of mind over brute force and strength. No intemperate man should ever have charge of animals that are being trained. Bad habits and dispositions are mainly the want of care or mismanagement on the part of those having charge of the animals.

Training animals to overcome bad habits is among the most unpleasant labors of the men who have charge of them. Prevention is the easier and safer method. We should bear in mind that training or instruction must precede knowledge and that the animal has neither knowledge of cause or effect, nor hope or reason to stimulate them to do right. He obeys through man's power over him; it is not a voluntary offering. Therefore, do not abuse that power, but prove yourself worthy of being the master of well-trained animals. Thorough training adds greatly to their value and to the comfort of those who care for them.

W. MILTON KELLY.

Green Feed in Summer

THERE are many farmers who have small farms, and the problem of supplying green feed for hogs and cows in summer is a difficult one. As the grass pasture is necessarily small, about the first of July, when the rains are less frequent, the pasture gets short and the farmer must resort to some dry feed to keep his stock going.

I have discovered that this may be avoided by planting a small field near the barn in sweet corn in the spring. By the first or the middle of July the corn will be large enough to feed. At milking-time night and morning each cow may be fed a liberal ration of the green corn-fodder. They will relish it very much and the increase of milk will be very perceptible. The pigs will also thrive on this kind of feed. They will even chew up the stalks.

Two acres of green sweet corn will furnish feed for a dozen cows through July and August. The sweet corn should be planted thickly. The best plan is to drill it in rows. It can be cut with a corn-knife and hauled out on a wheelbarrow or carried and thrown over the fence. The farmer with a small farm who tries the sugar-corn proposition will no doubt find that it pays.

W. D. NEALE.

The World's Leading Cream Separators
Of Different Styles Are In
The Empire Line Take Your Choice of Style, Price and Size

DON'T buy a separator where you have no choice of design, style of construction or method of separation, until you have seen what the Empire Line offers you.

We make the really standard models, and make them better than anyone else can make them. We don't need to push one hobby on you. Having the different models we can state facts about each. We don't claim everything for any one machine. You know what you want—what you need—we have it—you take your choice.

Empires differ in pattern and price but not in quality. All are First Grade separators. One costs less than another because that style costs less to produce. That is a point that touches your pocketbook. Investigate it.

The Frictionless Empire—The Empire Disc Backed By the Empire Guarantee—As Good As a Government Bond

Each style of the Empire has its full range of sizes. And regardless of style or price, every Empire is better than any other separator—because into each has been put Empire materials, Empire workmanship and Empire "know-how"—the things that made the name Empire stand for all that's best in cream separators.

We show the Empire Disc here. It is the closest skimmer, and the lightest, easiest to turn, easiest to clean, most improved Disc Separator made.

The Frictionless Empire is known, used and praised all over the country. Hundreds of thousands are in use. It has held its leading place against all comers, old and new.

Get The Books and Compare. The large, handsome Empire catalog is free. It is the fairest, most impartial separator book ever published. It gives the unbiased truth about different styles; illustrates them; doesn't claim anything, states facts; doesn't push one hobby, describes the different standard models—you take your choice. Write for this interesting and instructive book today.

EMPIRE CREAM SEPARATOR CO., Fisher Building, CHICAGO, ILLINOIS
Factory, Bloomfield, N. J.

Nothing else gives such life and staying quality to a roofing as Trinidad Lake asphalt.

Genasco Ready Roofing

is made of Trinidad Lake asphalt and gives lasting resistance to sun, air, rain, heat, cold, and fire. It is mighty important to know what your roofing is made of.

Be sure you see the Genasco trademark and get the roofing with a thirty-two-million-dollar guarantee. Mineral and smooth surface. Write for the Good Roof Guide Book and samples.

THE BARBER ASPHALT PAVING COMPANY

Largest producers of asphalt, and largest manufacturers of ready roofing in the world.

PHILADELPHIA

New York San Francisco Chicago

$29.75 FOR THIS NEW LOW DOWN AMERICAN $29.75
CREAM SEPARATOR
A SEPARATOR THAT EXCELS ANY SEPARATOR IN THE WORLD

DON'T HESITATE BECAUSE OUR PRICE IS LOW. The quality is high; we guarantee it. It is up to date, well built and well finished. It runs easier, skims closer and has a simpler bowl with fewer parts than any other cream separator. Don't accept our word for it. Judge for yourself. Our offer enables you to do this at our expense. Write us a postal card or a letter and receive by mail, postpaid, our 1909 catalogue. It is handsomely illustrated, showing the machine in detail, and fully explains all about the Low Down AMERICAN. It also describes the surprisingly liberal LONG TIME TRIAL proposition we can make you. Competition is defied by the quality and price we make. Our generous terms of purchase will astonish you. Remember, we are the oldest exclusive manufacturers of hand separators in America, and the first to sell direct to the user. You are not dealing with any agent, middleman or catalogue house when dealing with us. Not one single profit is paid anyone between ourselves and our customer. You save all agents', dealers', even catalogue house profits and get a superior machine by dealing with us. Our New Low Down AMERICAN Waist High Separator is the finest and highest quality machine on the market and our own (the manufacturer's) guarantee protects you on every AMERICAN Separator. We can ship immediately. Western orders filled from Western points. Write us and get our great offer and handsome free catalogue on our New Low Down AMERICAN Separator. Address

AMERICAN SEPARATOR CO., Box 1055, BAINBRIDGE, N. Y.

A ROOFING DISCOVERY
IT'S FREE—ASK FOR IT

HUTTIG GREEN FLAG ROOFING

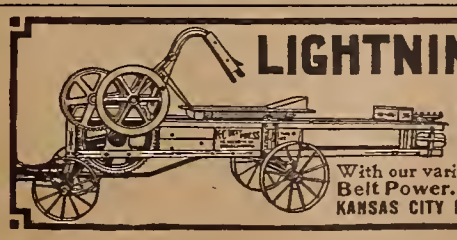
A new method of laying roofs without cement and large headed nails. No more trouble with leaks or dauby cement and unsightly roofs. The wonderful merit of "Green Flag Roofing," combined with the only perfect system of laying ever discovered, is a fact you cannot afford to miss in arranging the roof of your building. Don't let your dealer talk you out of this. Insist on the "Kleet" device. It costs you nothing to have it with your roofing if you use "Green Flag" brand. In this way you get the best roof and the one perfect method of laying at a price so reasonable it will astonish you. It was our good fortune to give the public "GREEN FLAG ROOFING," the best Ready Roof ever manufactured. There never was invented a method for laying a roof that insured the seams against leaks nor against the destruction of wind and weather, until now.

WE CONTROL THIS INVENTION AND OFFER IT TO YOU WITHOUT COST

The builder has always been confronted with this problem which has baffled the ablest experts. Before you make any arrangements for your roof, let us tell you all about this discovery. We will also mail you free, a sample of "Green Flag Roofing." It is adapted to any kind of a roof, from a henhouse to a mansion. Don't wait—don't do anything until you know about this. Write today. It won't cost you a penny nor obligate you in any way.

Ask for Free Samples of "Green Flag Spar" Roofing—Fire, Acid, Fume Proof. Needs no coating at time of laying or afterwards. Has the new "Kleet" device for laying.

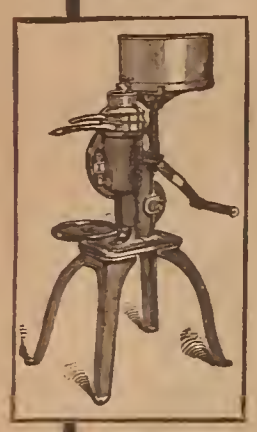
HUTTIG MFG. COMPANY, 861 Fourth St., Muscatine, Ia.



LIGHTNING HAY PRESSES

For 25 years the Reliable Balers.
Simple, Free from Breakage, Greatest Capacity and Best Work—Strong and Durable.
Consider these Facts for a Profitable Investment.
With our various styles can meet your requirements. Horse & Belt Power. Self Feed Attachments. Write for our Catalog.
KANSAS CITY HAY PRESS CO., 124 Mill St., Kansas City, Mo.

Make the Separator Last Your Lifetime



Only *one* oil is suited to the close-running bearings of a hand separator. A common oil, though it may *look* clear and run free, will not do.

STANDARD
Hand Separator Oil

has the properties a separator requires. It is carefully compounded of *pure* materials. Will not rust, corrode, gum, nor thicken. Feeds freely into close bearings and wears well.

To use Standard Hand Separator Oil makes a separator last a lifetime. Comes in one gallon cans. All dealers.

STANDARD OIL COMPANY
(Incorporated)

Freight Prepaid On Breese Bros. Rubber Roofing

DON'T spend a dollar for roofing until you have seen and tested the old, reliable **Breese Bros.** guaranteed waterproof, fire-resisting, durable **Rubber Roofing.** Made by our own special process, of long-fibre wool felt, saturated in asphalt. Heavily coated on **both sides.**

Free Cement and Special Roofing Nails inclosed in each roll. Hammer lays it. Use on ALL Buildings

Send for Free Samples and Booklet

Get these samples of 1-ply, 2-ply and 3-ply roofing. Put them to every test you can think of and prove to your own satisfaction that **Breese Bros. Rubber Roofing** is the highest quality roofing on the market. We give the

Longest Guarantee

Send for samples or order now on our strong guarantee of satisfaction or money back. We pay freight to all points east of the western boundary line of Minnesota, Iowa, Missouri, and north of south line of Tennessee. Don't delay ordering; these special prices may not be offered to you again. Take advantage of them and write now, today.

Lowest Factory Prices

Freight Prepaid on 100 lbs. or more

35-lb. Roll—108 Sq. Ft.—1-Ply	$1.35
45-lb. Roll—108 Sq. Ft.—2-Ply	1.85
55-lb. Roll—108 Sq. Ft.—3-Ply	2.25

Order today, or write for Samples and Booklet

THE BREESE BROS. CO., Roofing Dept. 24, Cincinnati, Ohio

Will $1,000 Help You Out?

HOW is your bank-account? If it is in a healthy condition, here's your chance to improve it, and if unhealthy, now's the greatest opportunity you've ever had to make big money, pay off your debts and win the smile of fair fortune. And the best of it is you do not need to invest any capital—only your time and energy. No experience is necessary, and even spare hours can be used to good advantage. Are you ambitious? Can you give us your entire time and realize a good income the year round? Would you like to earn enough to pay your college expenses next year? Or to pay for your music tuition? Or to buy a piano? Or to lift that little mortgage on your house? "Twelve dollars in three hours." "Six orders in seven calls." "Fifty-six orders in four days." "Averaging ten dollars a day." Such are some of the reports reaching us from the field. You cannot afford to miss this. By taking hold and staying with it you can build up a permanent paying business. Write immediately for full particulars to

The Crowell Publishing Company
Department of Agents **Springfield, Ohio**

U.S. U.S.

The Most Perfect
Cream Separator
That Money Can Buy.
The United States 1909 Models

Nos. 14 and 15, like all other sizes, are absolutely unequaled.

They are **the standard** Separators of the world.

They are entitled to this claim of being **Standard** because they won out in the greatest contest of Cream Separators ever held at any National or International Exposition in 50 consecutive runs, lasting through one month, on the milk of 10 different breeds of cows. The ***De Laval Disc Separators*** and the ***Sharples Tubular Separators*** were entered in this contest and **were beaten.**

The United States Separators are used by a very large percentage of the leading breeders in all the 10 leading dairy breeds of cows.

The United States Separators are used by progressive dairymen and creamerymen everywhere.

The United States Separators have **handsome frames,** cast in **one solid piece.** They have **waist low supply cans.** The **gears** are all **enclosed, dust proof** and **self oiling.** The **bowls** are **most simple** in construction and **easily washed** thoroughly in all parts in from two to five minutes. No long goose neck pipe in the United States to get foul and difficult to clean.

Dairy women as well as **experts consider** that the **United States** is now the **easiest cleaned, turns easiest, skims cleanest** and **wears longest.**

The United States was the originator of the enclosed, dust proof, self oiling gears. All others using this feature are imitators.

Send for illustrated catalogue and circular, No. 69.

VERMONT FARM MACHINE CO.
BELLOWS FALLS, VERMONT
K

U.S. U.S. U.S.

Live Stock and Dairy

Unprofitable Shepherding

The Living Enemies of the Flock

HAS it ever occurred to the farmer who is not a life student of sheep that nearly all failure is due to living enemies? That it is so I will endeavor to show, and if the reader is convinced, he will ever after be more earnest in keeping down his enemies, having fully recognized their malignity.

With the enemies of the present time we name the fly, which in this country does much harm. The variety attacking the sheep is known as Sarcophaga carnaria, and is most active in July, August and later, according to the season. The early arrivals are attracted to the fold by the prospect of ewes' milk, and one of the most frequent causes of their striking the ewe's rump or tail is the practice of holding steady by the tail or placing a milky hand on the quarter or flank, thereby leaving an invitation to flies when the shepherd has been caring for orphans or attending to caked udders.

Any discharges accumulating about the tail or thighs after yeaning, the matter left on these parts as a result of diarrhea, or merely cakes of mud soiled with dung and urine, offer sufficient attraction to these pest flies, who first feed and then "blow," as it is called, their eggs hatching out very quickly into writhing masses of maggots, which are not always seen soon enough to prevent serious mischief. In inclosures where a number of sheep are kept together, and their odor makes their presence known to the enemy, we have seen that the early comers find pasture, and it is these we should most strive to prevent or destroy. Every one killed then (like a queen wasp) will influence the whole summer's crop of them, but a few successful "blows" will perhaps make it impossible to cope with them later on, when they become so fierce. Wooded places and high fences with hedges favor the pests, as they lie upon the under side of leaves at night, and only come out in the warm part of the day, so that such situations should be avoided if possible. Of course, in this matter, as in others, we must cut our coat according to our cloth, and if we must pasture near trees we must take extra precautions to prevent attack, as well as be always prepared to stop a "blow."

Powder for Fly

Several have spoken of the freedom they have enjoyed by the use of powder, for which the formula has been given more than once in my writings, and it may be worth while to give it again:

Sublimed sulphur, two and a half pounds; red oxide of lead, one half pound; white lead, one and a half pounds; brown umber, two pounds; black hellebore, one half pound; oil of tar, two ounces; animal oil, one and a half ounces.

This should be prepared by a chemist with suitable mortars and sieves, but those who choose to make it themselves should rub down the leads first, then the sulphur; to avoid lumps, mix the other powders and work in the liquids so as to fully incorporate them without moist spots. The powder should then be spread for a few hours and sifted through a moderately coarse sieve, and put up in brown-paper packets of one-pound weight each, unless the whole quantity is to be used at one "go." A dewy morning is the best of all times, but failing dew, the water-pot with fine rose should be used to sprinkle the fleece after parting it down the middle. With the hand to shade the eyes, the head should receive some of the powder, for the fly will find a sore caused by rubbing or by rams fighting, and have the laugh on you if only the body has been done. Twice in ordinary seasons will be often enough to apply this powder, and about half a pennyworth for each sheep will be the amount it costs. While in hand the shepherd should look for "blows" and also trim away any stained or dirty wool about the tail or under the thighs. Sores may be dabbed with tar, an article, by the way, that every flock-master should have in readiness.

A good mixture of oils used by the writer for many years is made by mixing one half ounce of carbolic acid, one fourth ounce of eucalyptus-oil and seven and one half ounces of olive-oil. This will kill maggots and act as a wound-healer at the same time, and afford protection for some days from any further attentions by the fly.

Lice

The variety of louse affecting sheep the most is known as Trichodectes sphærocephalus, and is most fond of the thighs, the under surface of the arms, and the neck. They may be seen as little brown creatures when sheep, and especially lambs are lying in the sun. Their presence is often tolerated without much annoyance, but if a colony of them suddenly start on trek for some other part, the host gets wild with irritation, and will push his head between bars or fences in order to rub, and then, turning, get stuck fast, or try to bite his own neck and get "bridled," or held by the wool in his teeth.

In fair weather, and used with judgment, not covering too large an area of skin, lice may be destroyed by rubbing in mercurial or "sheep" ointment, as it has come to be called in many parts, but we have seen sheep salivated by rash usage. Tobacco-juice also answers the purpose, and is now sold cheap enough.

The cheapest of all preparations for killing lice on sheep or other animals is by sulphureted baths. Four parts of sulphur are boiled with one part of slaked lime and one hundred and sixty parts of water. Ticks can seldom be got rid of without dipping, as they are very tenacious of life, and scattered too much to be found, save by the quick eye of a bird. It is a matter of regret in England that during the last twenty years or so the starlings have developed a preference for cherries and other fruits which they formerly took no notice of, but industriously sought for ticks when the birds themselves were much less numerous.

Scab

This has been one of the worst troubles of the shepherd since history began, and all that is necessary to say here is how to find it one's self. Do not choose a bare or sore place, but look for the first indication of broken fleece, and from there pull out a little wool and examine with a lense. The insect or some broken parts may be seen if scabbed, and if none can be found in this way, it is probable that some other and less serious cause is at the bottom of the trouble. Whenever sheep rub their faces in the winter, or get sores around the mouth, the same sort of examination should be made, as some insects (symbiotes) lurk around these parts until next year, and then break out into lively form. These account for the "mysterious" conveyance of scab into a flock that has not been exposed to infection, as the owner believes. They have been harboring it all the time.

Outside enemies are practically within the power of man to keep under if diligent and watchful, but what of the inside ones? Here we have to acknowledge but very partial success in either prevention or cure. Helminthologists have brought to bear on the subject the most painstaking observation and accumulated great stores of accurate detailed material upon which others will later build, but there is so little of it that is of practical application to-day.

To know the exact anatomy of a parasite is interesting, but to know how to prevent its presence, or kill it when arrived, is infinitely more important, and this we do not know as regards those minute worms classed as strongyles or as filaria. We have to guess at so much, and, like many other things in farming, the remedy is often found first and the scientific explanation afterward.

We may safely generalize to the extent of saying that any pest will increase if we pursue the same line of conduct.

Good Tillage and Disease

How often it comes to the writer's mind that the old system of rotation of crops and other "high-handed" methods insisted on in time past had their origin in sound experience, but that origin was long forgotten; only the "arbitrary" nature of the agreement was apparent. The economic conditions to-day make every one desirous rather to lay down than to break up land, and yet in the breaking-up lies the best hope of destroying parasites which of late years have well-nigh mastered us. The despairing letters we have had this year about tapeworm in lambs and husk and other worms are quite painful to read, but investigation into individual losses has invariably shown much slackness and drifting, leaving to chance and hoping for better luck rather than tackling the question seriously; and we may once again remind readers that none of these parasites thrive under good tillage, and that the old-fashioned remedies of salt and sulphate of iron and gentian kill a great many, while affording valuable tonic properties to the animal taking them in its food. It is a fact also that turpentine and oil as a drench at intervals is a killer of many sorts of worms.

W. R. GILBERT.

Live Stock and Dairy

Fertilizer Value of Common Feeds

MANY farmers do not appreciate the importance of common feed-stuffs as aids in keeping up the fertility of the soil. If a surplus of any farm crop is produced, it is sold without regard to the amount of plant-food that goes with it. If feed is to be purchased, the fertilizer value of the material does not get even second consideration.

Corn is a product which carries much fattening material, but little plant-food. Wheat-bran does not contain so much fattening food, but more protein and mineral matter, and hence it is a good feed to build up the muscles and bones of animals. It can often be used more economically as a direct animal food, and also does much more toward keeping up the soil, provided the by-product, the manure, is applied to the soil.

If an analysis of the food value is given on the tags of feed purchased, a person can easily calculate the nitrogen content by dividing the protein content by 6.25; thus, if we have a feed which contains 160 pounds of protein to the 1,000 pounds, we divide 160 by 6.25, and the result is 25.6, the number of pounds of nitrogen.

Below is given the amount of plant-food found in several common feed-stuffs per one thousand pounds of the material.

	Nitrogen Lbs.	Phos. Acid Lbs.	Potash Lbs.
Corn silage	2.8	1.1	3.7
Corn stover	10.4	2.9	14.0
Timothy hay	12.6	5.3	9.0
Clover hay	20.7	3.8	22.0
Corn	18.2	7.0	4.0
Oats	20.6	8.2	6.2
Wheat-bran	26.7	28.9	16.1
Gluten-meal	50.3	3.3	6.5
Cotton-seed meal.	66.4	26.8	17.9
Linseed-meal	57.8	16.3	13.9

Comparing timothy hay with clover hay as to the value of plant-food at market price, fifteen cents a pound for nitrogen and five cents a pound for phosphoric acid and potash, we find timothy to contain plant-food worth $2.60 per one thousand pounds, and clover hay to contain $4.39 worth of plant-food in a like amount, $1.79 worth in favor of the clover hay, and yet the timothy has a higher market value than clover hay.

Corn-chop and cotton-seed meal have nearly the same commercial value as feed, but compared as to their value for the plant-food they contain the corn-chop is worth $3.28 and the cotton-seed meal is worth $12.20 per one thousand pounds, a difference of $8.92 in favor of the cotton-seed meal.

We would not recommend the purchase of any feed material for its fertilizer value alone. This must be a secondary consideration; but when a feed rich in plant-food can be used economically as a direct food, the plant-food value is quite an item in its favor and should always have due consideration.

Farm animals void from seventy to ninety per cent of the plant-food value of their food, and if this is carefully saved and applied to the soil it is quite an item in reducing the fertilizer bills, or else if the fertilizer bill is not reduced, the productiveness of the farm may be largely increased.

Economy on the farm requires a careful consideration of the by-products as well as the direct products of the farm.

A. J. LEGG.

Feeding the Dairy Calf

THE dairy calf that is to be raised should be fed differently from the calf that is to be made into veal at the end of a few weeks or the calf of beef-cattle parentage that is to be made into a beef-breed cow. From the very first the fact that the calf is to be raised for a dairy cow must be kept in mind.

The feeding must be carefully planned, as reckless feeding in the outset does great damage. Thus, a dairy cow developed from a recklessly-fed dairy calf will often have a digestion that is not up to requirements. The calf that is overfed on cold milk will develop scour, and though it may be cured, it is a question if a weakness is not created that will show itself later in the life of the cow.

The digestive powers of the calf are weak and are easily thrown out of order. The same would not be possible with a mature cow that had always been so fed that no case of indigestion had developed. The greatest trouble in the feeding of dairy calves reared by hand is this same tendency to overfeed. The stomach of the calf is adapted to receiving warm milk, and then only in small quantities at one time.

Two rules in feeding the dairy calf should be kept in mind—namely, never feed milk cold and do not feed it in large quantities. A common error is to imagine that because the butter-fat has been taken out of the milk, a larger amount should be fed. The reason should operate just the other way.

Dairy calves should not be allowed to become "pot-bellied." This is a sign that they have had large quantities of milk at each feeding, and as a general thing it may be taken as a sign that the calf has been often scoured as a result of this overfeeding. If the feeding is right, the calf will grow up with a good shape.

On the other hand, the calf must not be fed so little that it will be stunted in growth. It should be kept growing steadily from the time of its birth. The calf that is allowed to develop scour from overfeeding or being given too cold milk is likely to suffer a setback, for during this period the food is not digesting, and the result is that the frame of the calf is not being nourished. So a calf can be stunted both by overfeeding and underfeeding.

It is impossible to give any stated rule as to the amount of milk that should be given, for calves are of different sizes and of several breeds and are brought up under all kinds of conditions. The amount that would be just right for one calf would be too much for another calf and too little for a third calf. The man who closely observes his calves and feeds them with the object of finding out just how much is best will quickly arrive at conclusions on the matter.

About ninety-five to ninety-eight degrees will be the right temperature of the milk when fed, and the calf must not be expected to consume more skim-milk than it would of whole milk. The amount, of course, should be gradually increased as the calf becomes older. The regulation of the feeding-hours is of prime importance, and should be adhered to as nearly as possible.

At two weeks of age the calf will begin to nibble at hay, and good clover or alfalfa hay should be kept before it, giving a new wisp every day. About the same time it will also begin to nibble at oats or bran, and a box of either should be placed where it is easily accessible. It is well to encourage the eating of grain and hay as much as possible, as the calf does not begin to ruminate until it has solid food in its stomach. Corn-meal or timothy hay should not be fed, as both are fattening feeds, and heifer calves designed for the dairy must not be allowed to become fat and beefy.

WM. H. UNDERWOOD.

Pumpkins for Feed

IT IS surprising what a quantity of pumpkins can be grown on a small plot of ground, and yet more surprising to know their real value as a food for stock.

We would be at loss in feeding out our fall lot of hogs each fall were it not for the pumpkins we mix in for variety.

Even at this date, February tenth, we are feeding out the remains of our last fall crop. Yes, they're soft, have been frozen, but the hogs relish them, for they are not getting any green stuff to eat.

We usually plant our pumpkins in the corn-field. We can't see that they damage the corn any, and we thus make two crops at once. When the corn gets ready to begin to feed on, we go through and gather off every twenty-first row for the hogs. This gives us a road to get through to get out the pumpkins, which we sort and haul in.

We want to get them in before heavy frost, if possible. We sort out the immature ones and feed at once; the ripe ones we put in some building, and cover with straw as soon as freezing weather comes, and cover deeper when the weather gets colder.

They are great feed for brood-sows, correcting that ever "too much corn" feed usually fed by farmers. We feed a great many to our milk-cows, and even the horses relish them. We save our seed in the fall from the best specimens, wash, and dry them, and store in a can or other mouse-proof vessel. We would rather try to raise hogs without slop than without pumpkins.

OMER R. ABRAHAM.

While you farmers are buying the best implements to do your field work, do not forget to buy your wives the best implements for her house and dairy work. A look through the advertising columns of our "Fireside" pages will do you good.

CREAM SEPARATORS

Don't buy a cream separator without being sure you KNOW what you are doing.

Making a mistake in buying a cream separator means a great deal—it means waste of time and butter-fat twice a day, every day in the year, if you get the wrong machine,—until you "scrap" the machine itself.

More than 15,000 users who had made such a mistake replaced their "mistaken" machines with DE LAVAL separators during the year 1908.

They had probably wasted Five Million Dollars worth of investment, labor and butter meanwhile.

If you feel inclined to buy some other make of separator by all means do so, if you can find any apparently good reason for it.

BUT why not TRY a DE LAVAL machine beside the other machine for ONE WEEK before you actually contract to buy it? Simply SEE the comparative operation and comparative results and examine the comparative construction.

That's a proposition open to every intending separator buyer. Any DE LAVAL agent will carry it out. WHY not avail of it and KNOW what you are doing before making this very important investment?

Don't let any alluring "catalogue house" literature or clever talking agent wheedle you into buying any other separator without FIRST actually TRYING it alongside a DE LAVAL.

In other words, buy your separator intelligently and knowingly and not on blind faith in anybody's representations.

THE DE LAVAL SEPARATOR CO.

42 E. MADISON STREET
CHICAGO
1213 & 1215 FILBERT ST.
PHILADELPHIA
DRUMM & SACRAMENTO STS.
SAN FRANCISCO

General Offices:
165 BROADWAY
NEW YORK

173-177 WILLIAM STREET
MONTREAL
14 & 16 PRINCESS STREET
WINNIPEG
107 FIRST STREET
PORTLAND, OREG.

Keep the Dairy Things Pure

Clean the pails, cans and separator daily or twice daily—is Professor Dean's advice to dairymen.

But much depends on the *kind* of cleaning. Ordinary soap-and-water washing will not produce the thorough purifying effect that is needed in dairy utensils. Use GOLD DUST.

It not only cleans and brightens, but sterilizes and sweetens. It makes child's play of every cleansing task.

GOLD DUST is made of honest vegetable oil soap and other purifying materials ground into a smooth, magic powder.

Don't use Soap, Borax, Naphtha, Soda, Ammonia or Kerosene. The GOLD DUST Twins need no outside help.

"Let the GOLD DUST Twins do your work"

Made by THE N. K. FAIRBANK COMPANY
Makers of FAIRY SOAP, the oval cake.

Are You Building?

If so, don't take chances on your roof by buying "extravagant claims," but get a good old-fashioned roofing of quality, made by a firm established in 1817.

Paroid Roofing Facts.---It has stood the test of years on U. S. Gov't buildings, mills, farm and poultry buildings. Easiest to lay--most attractive.

PAROID ROOFING

is not a low priced roofing, but the slight difference in cost over cheap roofings is made up by a big difference in quality.

OUR GUARANTEE: Buy one roll of PAROID, apply it to your roof. If you are not satisfied that you have the best, we will send you a check for the amount you paid for the roofing and the cost of applying it.

Write for more facts and sample of PAROID, also free booklet of plans entitled "Practical Farm Buildings" if about to build.

F. W. BIRD & SON, Established 1817,
104 MILL STREET, EAST WALPOLE, MASS.

HOW TO TEST A CREAM SEPARATOR

If any maker, agent or dealer wants to sell you a Cream Separator of any name, make or price, here's the way to test it:

RUN IT ALONGSIDE OF AN ECONOMY CHIEF FOR SIXTY DAYS—that's all. If the Economy Chief doesn't outskim, outrun and completely outclass the other machine in daily use on your farm, send it back and keep the other machine.

Ask any one of the 193,000 Economy Separator users what he thinks about it.

$28.80 to $43.65 60 days' trial. 20 years' guarantee. Money and freight charges back if not satisfied. Write today for free copy of Economy Chief Dairy Guide that tells you all.

SEARS, ROEBUCK AND CO. CHICAGO

Review of the Farm Press

What Others Are Saying About Important Farm Matters

Distance Between Corn-Hills

More corn is planted in check rows than any other way. At the same time there are those who argue that drilling is better. Corn-growers will be interested in an investigation carried on at the Illinois Experiment Station. It was made to determine the distance apart at which hills of corn must be checked to return the highest and most profitable yields, and as a corollary to this to determine whether the planting of two kernels to the hill at the closer distance may give any better distribution of stalks than the planting of three kernels to the hill at greater distances.

A summary of the results obtained indicate that in the northern part of the corn belt of Illinois the largest yields have been secured from ordinary land by planting corn in hills thirty-six inches apart both ways with three kernels to the hill. In central Illinois on ordinary brown silt loam prairie land that ordinarily produces more than fifty bushels of corn to the acre, corn planted in hills 39.6 inches each way with three kernels to the hill has produced the largest yields. In the same part of the corn belt on land that ordinarily produces less than fifty bushels of corn to the acre, corn planted in hills thirty-six inches each way with two kernels to the hill has produced the largest yields.—The Farmer's Guide.

To Prevent Horns Growing on Young Calves

When circumstances are favorable, as in the case of farmers who build up their herds by raising the progeny, the horns may be prevented from growing by a simple and practically painless method, and the custom of preventing the growth of horns is becoming more popular and more generally practised under all conditions, except in the case of calves dropped on the open range. The calf should be treated not later than one week after birth, preferably when it is from three to five days old. The agent to be used may be either caustic soda or caustic potash, both of which may be procured in the drug-stores in the form of sticks about the thickness of an ordinary lead-pencil and five inches long. These caustics must be handled with care, as they dissolve the cuticle and may make the hands or fingers sore. The preparation of the calf consists in first clipping the hair from the parts, washing clean with soap and warm water, and thoroughly drying with a cloth or towel. The stick of caustic should be wrapped in a piece of paper, to protect the hands and fingers, leaving one end of the stick uncovered.

Moisten the uncovered end slightly, and rub it on the horn buttons, or little points which may be felt on the calf's head, first on one and then on the other alternately, two or three times on each, allowing the caustic to dry after each application. Be very careful to apply the caustic to the horn button only. If it is brought in contact with the surrounding skin it will cause pain. Be very careful, also, not to have too much moisture on the stick of caustic, as it will remove the skin if allowed to run down over the face. After treatment, keep the calf protected from rain, as water on the head after the application of caustic will cause it to run down over the face. This must be carefully avoided.

Either caustic soda or caustic potash alone, without the admixture of other substances, answers the purpose satisfactorily. Some years ago, however, certain preparations or "dehorning compounds," composed largely of one or the other of these caustics, were generally used, and as inquiries are still occasionally received concerning such preparations, the following formula is given: Combine in an emulsion fifty per cent of caustic soda, twenty-five per cent of kerosene and twenty-five per cent of water. The caustic soda is dissolved in the water and heated to the boiling-point, then removed from the fire, and the kerosene added gradually while the mixture is vigorously stirred. This emulsion is applied in very much the same manner as the stick caustic, except that it is necessary to employ a short, stiff brush. Sometimes a meat-skewer is used, the large end being mashed to form a stubby brush. Two or three applications should be made to each horn button, as in the case of the stick caustic, with intervals to allow it to dry.

In the very young calf the horn button, or point that will ultimately develop into a horn, has scarcely any attachment to the skull, and may be felt as a small button embedded in the skin. In this early stage it may be easily removed with a sharp knife or a pair of curved scissors, but even then caustics should be applied to kill any remaining cell life belonging to this germ point; otherwise there may be some subsequent irregular horn growth, which is more or less of a disfigurement.—Farmers' Bulletin No. 350.

The Food Value of Clover Hay

Careful experiments show a ton of clover hay, when fed along as part of a balanced ration to fattening cattle or sheep, to be capable of producing one hundred and sixty pounds of flesh. (Fed as a sustenance ration it would, of course, produce more.) Figuring this at five cents a pound, which seems low enough compared with prevailing market prices of beef and mutton, we have for the feeding value of the ton of hay eight dollars; but this is only a part of its value to the farmer, for he should look closely to the fertilizer value of his stock feed, more closely, it is feared, than many do.

Tests show the part of the ton of clover hay left behind by the animal to contain the fertilizing elements as follows: Nitrogen, 51.7 pounds, at 16.7 cents, $8.60; phosphoric acid, 11.4 pounds, at 5.7 cents, 65 cents; potash, 33.4 pounds, at 4.4 cents, $1.45; fertilizer value per ton of manure, $10.70; add to this the food value per ton, $8, and we get $18.70 for the total value of a ton of clover hay to the farmer.

How he can afford to put it in bales and into New York for anything like the prices quoted, ten to twelve dollars, is not so easy to determine, for at that rate he probably gets not to exceed eight dollars for the hay at the farm. Feed it; keep it at home. That is one way to get a larger share of the consumer's dollar.—The Rural New-Yorker.

The Disk and Mold-Board Plows Compared

Shall I buy a disk or mold-board plow? is a question frequently asked by the farmer. The conditions under which the plow is expected to operate must help answer it.

All farmers are acquainted with the mold-board plow and know how to operate it to the best advantage. The disk-plow, on the other hand, is a newer invention, and has not been used so extensively.

Under similar conditions, the disk-plow is of lighter draft, but this difference is not so much as is often claimed by the manufacturers. Rolling friction makes it pull somewhat easier than sliding friction. Because of the rolling motion of the disk and its cutting effect, it is not so likely to clog as the mold-board plow. What the disk cannot cut, it will roll over.

The disk is capable of plowing ground that has become too dry and hard for the mold-board plow. This is oftentimes of much value, as it is not necessary to wait for rain, and the seed can be planted at the proper time.

For humid sections and irrigated lands the mold-board plow must be considered superior. Under favorable conditions for plowing, where the soil is not too dry, the mold-board plow pulverizes and turns the soil more satisfactorily. It also handles sod to better advantage.

To do the same amount of work, the disk-plow will require very little sharpening compared to the mold-board plow. This makes the running expenses of the disk very much less than that of a mold-board.

The disk should not be of too large diameter. A twenty-four-inch disk for general use is to be preferred to one of larger diameter. The twenty-four-inch disk will pulverize the soil more than a twenty-eight or thirty inch one. The draft is a trifle more on the smaller one, but the difference is more than made up by the class of work it is able to do.

The disk should not cut too wide a furrow. It is far better to use two disks twenty-four inches in diameter, each one cutting eight inches in width, than to use a thirty-inch disk cutting fourteen or sixteen inches in width. Taking a narrow furrow tends to make the bottom less corrugated.

Plowing the same ground year after year with the disk does not keep it in as good condition as if plowed with a mold-board plow—H. M. Bainer in Colorado Agricultural College News-Notes.

Asked and Answered

Questions of Interest to the Practical Farmer

Wood-Ashes as a Fertilizer

EDITOR OF FARM AND FIRESIDE:—I read some time ago in FARM AND FIRESIDE that unleached ashes was a good fertilizer. Will it do to put them full strength on corn ground or on all ground prepared for seed? I have been saving them in the dry for a long time. I burn hard wood—nothing else. How thick should they be scattered on the ground? Some think they would be so strong they would kill the crop or seeds so they wouldn't sprout. Any information would be gratefully received.

Ohio. MRS. JAMES RICHEY.

Unleached wood-ashes contain from five to eight per cent of potash and are valuable fertilizers where potash is needed. The potash is present in one of the best forms and is very soluble and readily washed out if the ashes are exposed to the weather. Ashes contain also about fifty per cent of lime, and are therefore beneficial on soils which need lining.

There is no danger whatever attendant on the use of ashes on corn ground. The only crop on which it is unsafe to use ashes is the potato. They have a tendency to increase the scab on potatoes, and consequently should not be used on this crop. Ashes can be used with perfect safety on any other of the common crops.

The best way to use them is to apply to the plowed ground and harrow in. They can be used in any quantity available, but as the quantity is probably limited, it would be best to spread them over considerable space, say at the rate of three hundred to four hundred pounds to the acre or less. One of the best places to use the ashes is on the garden, with the exception of the potato ground.

Do not mix the ashes with other fertilizers or manure, but apply them alone. They interfere with the action of the commercial fertilizers if mixed with them, and drive off ammonia if mixed with manure. ALFRED VIVIAN.

Who Prevents Parcels-Post Legislation?

AN INDIANA farmer, A. L. P., writes: "I like the parcels-post fight you have been putting up the past three years, and I look over every issue of FARM AND FIRESIDE as soon as it comes, to see how the war is coming on. I also read Mr. Lewis' swats at the enemy.

"When Mr. Lewis started out he gave us some good reading and a lot of information. Lately he has dropped into biography that is not interesting. We do not care for the biography of legislators. We want to know what they are doing. Both you and Mr. Lewis make one great mistake in your campaign for better things: You say what is being done, and has been done, but you fail to name the legislators who are doing, or have done, these things. We want to know who in Congress is fighting against parcels post, and against the other reforms we are asking for.

"I know that Postmaster-General Meyer tried to have parcels post tested in a county here and there throughout the United States, to see if it would work beneficially to the people, and to learn the cost, and the measure was introduced into Congress, but was turned down. Now, who turned it down? That's what we want to know. Who bucked against this legislation? And where were our champions—the new men we have sent to the Senate—at that time?"

The champions of the express trust and retail shopkeepers' organizations who nipped Meyer's parcels-post trial trip in the bud are the doughty Penrose of Pennsylvania and bullionaire Bailey of Texas. These are not all the moguls in the Senate that are determined to prevent any progressive legislation. There's a nice large bunch of them, and if any legislation that will benefit the plain people gets through it will be when they are asleep, or on a junketing trip at government expense. In the meantime they will continue to send their washing, and their type-writers and other stuff through the mails under their franks free of charge, while we pay sixteen cents a pound for every little present we send our friends through the mail, or a wonderfully uncertain amount if we send it by the express trust.

Our Indiana farmer can safely wager his boots that if any legislation touching parcels post, or anything that will really benefit farmers, gets into the Senate, one of this valiant bunch will bob up and snuff it out with a senatorial objection. A senatorial objection is, by senatorial courtesy, a swat that slays the measure on the spot.

Some time a man will come up from among the plain people and get into the Senate, and after telling the millionaires and bullionaires and trust magnates there assembled that they are simply blocks in the way of progress, demand that plain business and common sense be substituted for senatorial courtesy, and instead of chinning to the galleries for bouquets, they do something to earn their salaries. I well remember the time one Hopkins of Illinois, who has been trying all winter to hop back into the Senate, tackled one Tillman of South Carolina, not for any particular act committed, but on general principles. The partizan papers described this Hopkins as "standing there like a war-horse sniffing the battle from afar, his nostrils dilated, his chest heaving and his eyes flashing defiance as they swept the galleries." What rot! Little wonder that the plain people are turning from partizan papers to such as FARM AND FIRESIDE for real information.

FRED GRUNDY.

Fertilizer for Potatoes

EDITOR OF FARM AND FIRESIDE:—I would like a little advice. I want to plant two lots in potatoes. The lots have not been used for several years. Will I have to fertilize before I plant, or can I give them nitrate of soda later on?

Ohio. W. H. McC.

Your correspondent does not give any description of the kind of soil upon which the potatoes are to be grown, so it is rather difficult to give specific advice. There is no crop which pays better for liberal fertilizing than the potato crop, however, so it will be safe to spend a little money for fertilizers. Potatoes do not need nitrate of soda so much as they do some form of phosphate. I think it would pay to apply to the soil after plowing a good complete fertilizer containing about three per cent of ammonia, eight to ten per cent of phosphoric acid (available) and five to six per cent of potash. Use this at the rate of about four hundred pounds to the acre.

Two-ten-eight is a standard formula with many manufacturers and would do very well. Good general preparation of the soil and fertilization are what the potato needs, rather than special applications of fertilizers. If your subscriber is especially anxious to have the potatoes very early, an application of nitrate of soda (one pound to the square rod) after the plants are well started might help.

ALFRED VIVIAN.

(See letter below)

Amatite ROOFING

Colchester, Connecticut, September 4, 1908.

Barrett Manufacturing Company:

Dear Sirs: The Amatite Roofing on my own grain store is giving much better service than I could believe it would at such a moderate price. It is by far the cheapest roofing on the market, when you consider the wearing qualities. Am going to use it on my other building. (Signed) AMOS C. CASE.

This is a type of hundreds of letters which we get regarding Amatite.

It is better made; has better waterproofing material and weighs more per square foot than any other roofing of the same price.

And Amatite has one distinction which makes it stand out above all others—it has a *real mineral surface* which does away entirely with painting.

No other ready roofings compare with it from the standpoints of low cost, no maintenance cost and absolute protection. Sample and Booklet on request.

BARRETT MANUFACTURING COMPANY
New York, Chicago, Philadelphia, Boston, Cincinnati, Minneapolis, Cleveland, St. Louis, Pittsburg, New Orleans, Kansas City, London, Eng.

SEND FOR BOOKLET

WRITE AT ONCE

Bishopric Wall Board

Better than LATH and PLASTER

BISHOPRIC WALL BOARD (patented) has solved the lath and plaster problem. No more mortar, dirt and dust; no more delays in building construction, due to weather conditions; no more cracking and scaling of ceilings and walls; no more damp walls and falling ceilings.

Bishopric Wall Board is made of kiln-dried dressed lath, embedded in Hot Asphalt Mastic (99% pure) at a pressure of 500 pounds to the inch. It is surfaced with heavy card-board, sized at the factory, and ready for interior decoration. Bishopric Wall Board

Costs 40% Less than Lath and Plaster

leaves a smoother surface; is more durable—will outlast the building without cracking or scaling; is a non-conductor of heat and cold; saves fuel; is free from odor; proof against moisture, air, sound and vermin.

It comes in squares 4x4 feet, ready to be nailed to studding. It may be sawed in any size without waste. Expert labor not required. Hammer and saw the only tools needed. Can be applied in less time than lath alone is put on for plastering, and is ready for the immediate application of paper, oil paint or cold water paint. Smooth, plain surfaces are produced or beautiful Mission panel effects may be produced. Illustration to the right shows—(A) Lath embedded in (B) Asphalt Mastic. (C) shows surface ready for decoration.

Bishopric Wall Board is suitable for buildings of every description—from temporary cottages to most costly structures—for homes and business houses. Nothing equals it for new partitions in old or already completed buildings. It may be applied over unsightly ceilings with splendid results. Write for FREE sample and further information.

The Mastic Wall Board & Roofing Mfg. Co., Ltd. 1262 West Sixth St., Cincinnati, O.

Can ship from Cincinnati or direct from our factories in New Orleans, La. and Alma, Mich.

DEALERS SHOULD WRITE FOR OUR ATTRACTIVE PROPOSITION.

Will You Spend a Penny For Postal To Get Our Book Which Saves You $25 to $40?

This is Our Wrought Iron Special

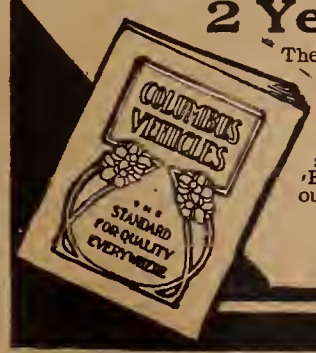
BE sure to get our lowest direct-from-factory-to-you prices on highest quality vehicles before you buy a buggy of any kind. We positively save you big money and give you a better buggy than you can get anywhere else for $25 to $40 more money. Deal direct with us and save all the dealers', jobbers' and middlemens' 50 per cent, which does not add to the quality. Better keep that extra money at home—in your own pockets, where you want it.

We beat them all on quality and price. All our vehicles are sold on 30 Days' Free Trial—and long-time guarantee of good service and all-time satisfaction. You take no risk when you deal direct with us—the manufacturer. For 20 years, our watchword has been Highest Quality at Lowest Prices. Compare our prices with anybody's, then you will know the remarkable values we offer you.

Get our book at once and become a judge of buggy values. We show you 75 styles of buggies and many styles of harness—more than any dealer could possibly have in his showroom. You have a choice line of quality buggies to select from—at prices that will please you. This book will make it plain to you how we are saving thousands of dollars for buggy buyers every year. Remember, all our vehicles are sold

COLUMBUS BUGGIES

Direct To You From Factory On One Full Month's Trial and 2 Years' Guarantee



The buggy illustrated above, we call our Wrought Iron Special Top Buggy. It has over 100 points of merit—for example the all-popular body—heavy 2x2-inch ash sills—hardwood bottom. Hand-forged Wrought Iron fifth wheel and gear. Bradley quick shift shaft conplings, screwed rim, straight grain hickory wheels. Elegant high padded patent leather dash with our special dash brace. Three-prong wrought iron steps. Roller rub-irons. Fine full length (extra long) top. All curtains reinforced. Plaid back rain apron (extra large.) The finest, easy riding springs you ever rode on. High collar, dust proof steel axles with the latest handsome true arch. Upholstered in the finest all-wool broadcloth. Finest workmanship. Latest improvements. Proper proportion—style—strength. We will send it anywhere on our 30 Days' Free Trial, 2-year guarantee plan—at a price that makes you a satisfied buyer. 20 years' experience and a reliable manufacturer back of every vehicle or harness we sell.

Get your name in to us now—so we can send you our Book. Simply put your name and address on a postal—say you want the book—and we'll send it right away—postage prepaid.

COLUMBUS CARRIAGE AND HARNESS CO.
Station C8 Columbus, Ohio

You Pay for the Sand On Roofings

When you are offered a ready roofing which is coated with sand, mica, or pebbles, you can make up your mind that you are paying *roofing prices* for the *coating*.

For such coating does not help the roof. It is merely a "talking point" to make the roof seem different from what it really is.

Such coating, in fact, is a detriment. For it washes off after a few rains, leaving a roughened surface on the roofing, and choking up gutters and drain pipes.

The reason why coated roofings are offered you is because there are 300 substitutes for the genuine Ruberoid, all looking much the same.

By adding sand to the roofing it is made to appear different—that is all. And you pay for a mere selling feature, when you ought to be getting roofing value.

The First Ready Roofing

Ruberoid roofing has never been coated. It is the original ready roofing by several years.

The secret of its wonderful properties lies in the Ruberoid gum which we use.

This gum is our exclusive product. No other maker can use it. It is this gum which makes Ruberoid heat proof, cold proof, snow proof, rain proof. Resistant to acids, gases and fumes.

It is this Ruberoid gum which makes Ruberoid so good a fire resistant. You can throw burning coals on a roof of Ruberoid without danger of setting fire either to the roofing, or to the timbers underneath.

It is this exclusive Ruberoid gum which makes Ruberoid flexible enough to stand the strains of twisting and bending which every roof must bear.

Seventeen Years of Service

The first Ruberoid roofs ever laid—seventeen years ago—are still flexible, still weatherproof, due to the life of this wonderful gum which is used in no roofing but Ruberoid.

Ruberoid roofing is suitable for any building—from a woodshed to a large factory or public building.

It also comes in attractive colors—Red, Green, Brown—for use on fine homes.

But before deciding on any roofing, for any purpose, send for our free book, "All About Roofings."

This book tells what we have learned in twenty years of roofing tests. It gives the advantages and the disadvantages of shingles, tin, tar, iron and ready roofings.

It is a gold mine of practical information.

To get this valuable book, simply address Department 21C The Standard Paint Company, 100 William Street, New York.

RUBEROID

(REGISTERED IN U. S. PATENT OFFICE)

Be sure to look for this registered trademark which is stamped every four feet on the *under* side of all genuine Ruberoid. This is your protection against substitutes which many dealers brazenly sell as Ruberoid. Ruberoid is usually sold by but one dealer in a town. We will tell you the name of your Ruberoid dealer when you send for our free book.

THE STANDARD PAINT COMPANY, Bound Brook, N. J.

New York, Chicago, Kansas City, Boston, Philadelphia, Atlanta, Memphis, Denver, San Francisco, Montreal, London, Paris, Hamburg

ANSWER This Ad. Save Dealer, Jobber, Catalog House Profit

Buy direct from the biggest spreader factory in the world. —My price has made it—No such price as I make on this high grade spreader has ever been made before in all manure spreader history. I save you $50. Here's the secret and reason: I make you a price on one based on a 25,000 quantity and pay the freight right to your station. You only pay for actual material, labor and one small profit, based on this enormous quantity on a

GALLOWAY

Get my bran new proposition with proof—lowest price ever made on a first class spreader, with my agreement to pay you back your money after you try it 12 months if it's not a paying investment How's that for a proposition? If I did not have best spreader I would not dare make such an offer. 20,000 farmers have stamped their O. K. on it. They all tried it 30 days free just like I ask you to try it—30 DAYS FREE.

Drop me a postal, and say—"Galloway, send me your new proposition and Big Spreader BOOK FREE with low prices direct from your factory." I also make a new complete steel gear Spreader—70-bu size.

H. Guthberson, Gladbrook, Iowa. "Works fine. Spreads all kinds of manure better than any spreader I ever saw. So simple, nothing to get out of repair as compared with other spreaders."

T. F. Stice, Oswego, Kans. "Often pull it with my small buggy team. Does good work. Have always used the ——— before. Galloway much the best. If going to buy a dozen more they would all be Galloways."

WM. GALLOWAY COMPANY, 749 Galloway Station, WATERLOO, IOWA

Let Me Pay Postage on My Big, Free Buggy Book to You

Although these books cost me 8 cents each to mail, for postage alone, yet I'll gladly send you one, FREE, because I want you to know about SPLIT HICKORY BUGGIES—Made to Order—Sold Direct From My Factories to you on 30 DAYS' FREE ROAD TEST—Guaranteed Two Years. This Book Means a Saving of $25.00 to $40.00 to You on just the Vehicle you want—because of the DIRECT Factory Prices it quotes you. Get this Book—sit down of an evening and look it over. It contains actual photographs of more Vehicles and Harness of every description than could be shown in ten dealers' salesrooms—over 125 different styles of Vehicles and Full Line of Harness.

Split Hickory Vehicles

This is my latest 1909 Book—and it is truly a Buyer's Guide. It not only gives descriptions and prices which show a

Saving to You of $25.00 to $40.00

but it also tells how good Vehicles are made—why they are better made my way—all running parts made of Second Growth Shellbark Hickory—split with the grain—not sawed across it—thus giving extra strength and long wearing qualities. SPLIT HICKORY Vehicles are trade-mark Vehicles—known in every state in the Union for highest qualities and prices, and my celebrated

30 Days' Free Road Test Plan

proves all my claims. Making Vehicles to order, I give you any option as to finish, style, etc.,—that you get from no other manufacturer. Buying direct from my factories brings you in touch with the people who make your Vehicle. My Two-Year Guarantee is to you—direct. My Free Road Test Plan is to you—direct. My prices are to you—direct. No roundabout transactions as when buying through dealers. No dealer's profits added in the price of your Vehicle—all meaning a big saving and more satisfaction to YOU. Over 125,000 Split Hickory Vehicles now in use. LET ME SEND YOU THIS BOOK AT ONCE.

Address H. C. PHELPS, Pres.

The Ohio Carriage Manufacturing Co.
Station 23, Columbus, Ohio

Farm Notes

When the Orchard Began

"I CAN help, can't I, pa?"

"Help? Of course you can help, Laddie!"

And yet some folks think a boy cannot do enough to pay for his board! They figure it all up in black and white and set it down, so many hundreds of dollars against the boy, and work as hard as he may, stick to it till he is one and twenty, though he may, and be as faithful as possible, still he never gets out of debt! Shame on the men who treat their boys that way!

Help? Whoever saw a live boy who does not help every single year of his life a thousandfold as much as he ever gets out of it? He may get tangled up with his own legs and fall down a dozen times in the course of the forenoon. He may have the faculty most boys have of getting right in the way of father and all the rest forty times a day. He may get mixed up when you send him on an errand, and bring a beetle when you want an ax, just because he got off on track of a woodchuck while on the way to the house, and forgot every single thing about what he was to get for you. What of it? It is all help, and help you will miss some day when the silence grows so big around the farm that it crowds your heart full of sorrow, and dams up, so that nothing short of a good crying-spell down at the barn all alone will relieve the pressure.

Laddie gave two or three extra kicks at this evidence of usefulness, and shinned up one of the little trees in the back yard, just as you have seen kittens do, not because there was a special need of it, but to be doing something which must be done, or the boiler will burst.

The little apple-trees had come at the station nine miles away. We had been looking for them some time and planning where they were to be set out. The knoll near the old orchard was protected from the wind and was on higher ground than the house, so that it seemed as if it might be protected somewhat from frosts, quite an item in fixing the location of an orchard. Father had made his trip to the station and got the great box with the trees. They had been carefully unloaded and the cover taken off to see in what shape they had come. And now the time had come to set them out.

The next morning was a warm day in May, and as luck would have it, a drizzling rain set in early in the day.

"Will this keep us from setting 'em out, pa?"

Laddie's voice had a tinge of fear and doubt in it. It comes a bit tough to meet with disappointment when the years of one's life have been few. Later we get used to it; or perhaps it would be better to say, we are more ready to grit our teeth and keep still when it comes.

"It will be a splendid day to set the trees out, I think, Laddie!" father says, and the thermometer of Laddie's heart rises to forty above zero in less time than it takes to tell it. There are some more kicks and another shinning up the trunk of the tree, now wet and slippery from the rain that is coming down so gently.

Old Jack hauls the big box up to the orchard on the stone-boat, and then comes back to the barn to begin over again with his breakfast where he left off when the call came to do the odd job with the trees. On the boat are also a pick, hoe and some other tools that may come handy. Laddie runs along by the side of the boat, now and then stealing a bit of a ride by stepping on the boat. If Old Jack ever knows the difference, he takes it all in good part, for anything the boy he loves may do passes for the right thing every time.

We have not plowed the land where those trees are to be set. I am not sure that I would do it if I had it to do over again. I know the best orchardists tell us we should plow ground set apart for such purposes. But we had such good success with our orchard on land that had not been plowed that I feel a bit doubtful as to the advisability of doing so. Certainly we could not possibly have had better luck, if you may call it luck. Perhaps the work of digging the holes was a little harder through the sod, but what did that matter so long as father has Laddie to help?

The rain still comes down just as softly and as silently as all such May rains fall. Over all the earth a calm rests that fits into our hearts splendidly. The old farm-house, with the barns clustering about it, lies in a mist like that which comes into our dreams. The smoke from the chimney where mother is doing her forenoon's baking falls in great curling wreaths over the roof, a sure sign that the "air is heavy" and full of water. The hens have retired to the inner sanctum sanctorum of the houses, and we hear the long crow of the old rooster. It sounds dim and far away, as if muffled by the shadows that hang over everything, and yet we are glad the old fellow has grit enough to crow. So many folks get too down in the mouth to crow when the sun does not shine!

But we care nothing about the rain, Laddie and I. We slip into our long raincoats and go at our work with stout heart. And now if you want to see how a boy can help, just watch Laddie as he swings the pick and hoe! You have to make some pretty lively movements at dodging now and then, and if you don't get hit in the face you will do well. That is what did happen to father once when Laddie was helping at putting a load of manure on the wagon. One of the tines of the fork struck him in the forehead not far from one eye. It bled "like a stuck pig," and nobody was more scared than that same Laddie. The scar is there yet, but it was a scar made by love's brave effort to help, so what does it amount to?

We dug the holes so that every root would lay out straight, and a little deeper than the trees stood in the orchard where they first grew. Then Laddie held the tree up while father drew the earth back into the hole and stamped it down tight. There was just moisture enough coming down to wet the earth finely, an ideal day for such work.

The trees were set thirty feet apart each way, and we think that about the right distance. If they are nearer, you may have tops interlacing some day; while if they are much farther apart, you lose the use of some ground.

And this is the story of the day. We set out sixty little trees that day when the rain was coming down, and it was a good day's job, too. All the varieties we thought would do well were there—Astrachans, coming early, Sweet Boughs, Early Harvest, Spies, Baldwins, Russets and two or three Ben Davis. If we had it to do over again we would leave the Ben Davis out. They bear well and look nice, but they are not good to eat. Now, some soils may make a difference, so we are not speaking a word against the tree for places where it is a better apple. This applies just to our own locality.

"Will the trees have apples on 'em this fall, pa?"

So hard to wait, you see! Don't we all find it so? We want the dream to come true in the morning, sure. To stand here and look away on into the years does seem such a hard thing to do. It seems almost as if we could not endure the long delays which must come between the planting and the harvest. One of the hardest things in the world to do is to wait and let the tree grow into fruitage.

"It won't be long, Laddie. Maybe not the very next fall, but we can wait. There will be a lot of fun taking care of the trees before they have apples on them. You and I will trim them and do all we can to make them have the best possible fruit."

Up the mercury of hope goes! It takes such a little word to bring cheer to Laddie's heart! Sometimes father needs to be pretty brave himself to speak that word, for waiting does hurt a bit in the hearts of us all. We may not confess it, but you and I know it is true.

Well, the mist settles lower in the valley now. The old house shows up dimmer than it did this morning through the falling shadows. Mother has fed the hens and they have crept up on their roosts. The old big rooster has sounded his bugle for the night and settled down, his head far down among the feathers of his neck. Homeward we make our way, a bit tired, but happy of heart, after all, for we have done one of the jobs which will some day make the farm home all the dearer to us. And all is well.

E. L. VINCENT.

No, Fathers and Mothers on the Farm Are Not Selfish

I CAN'T agree with Mr. Burdette in regard to fathers and mothers on the farm being selfish with their children; that is, generally speaking. Of course there are some exceptions, but I think there is no one who does any more for their children than does the farmer. Of course they have to learn to work, but that is a kindness to any child.

Speaking of the boy working on the farm for his father until he is twenty-one, then the father not wanting to do the proper thing for him, I think there are very few boys who work on the farm

until they are twenty-one without getting anything for it. Most of them have a nice team and buggy, besides other stock, that is given them, and sometimes even a share of the stock raised on the farm.

They are given a good, common education, and most boys are sent away to college to complete their education, and I believe most of them think the farm is best, after all, and come back to it, and the father starts them up to farming for themselves. I know of several boys who have come back to the farm after going to college preparing themselves for some other business, and I am always glad to see them come back.

I think that farmers in this day and age have to have an education. I don't like to hear any one say that the "old folks" won't take an interest in their boys, for who could not be interested in their children's welfare. I think it is more times that the children will not be interested in the parents after all they have done for them.

I do believe in giving the boys some stock or a share in some of the produce, even when they are small, for it teaches them to take more interest.

Girls also should have a share in some of the poultry or other products of the farm. If either is neglected from the financial standpoint, it is the girls.

I think there is no class of people any more prosperous, happy and contented than the farmer and his family, and they have it just as convenient and pleasant as the town folks, with their mail-delivery, telephones and nice horses and buggies and even automobiles, and I think most of our boys will stick to the farm.

Illinois. C. A. P.

Farmer Philosophy

Every good turn deserves a return.

Likewise, young man, do like the wise.

Buy what you need; sell what others need.

More ills come from overeating than overworking.

An honest day's work calls for an honest night's rest.

We get a part of the world's goods for doing our part.

A pleased cropper returns to the field early in the spring.

Be optimistic, whether there is any cause for it or not.

Hogs are content with one meal a day if it lasts all day long.

We hear of many business failures, but never of a farm failure.

Opportunity is ever waiting for some one to knock on her door.

The wheelbarrow depends upon push; the dinner-bell upon pull.

There are more optimists on the farm than in any other vocation.

The three essentials to successful farming are work, labor and toil.

Give credit to much you hear—and let all you say be as good as cash.

It must have been a farmer that Diogenes was looking for with that lantern.

Inventive genius in man or woman comes in to good advantage on the farm.

If there is such a thing as a horse laugh, why not a mule grin and a cow smile?

The farm-hand who often raises sand about his work is not apt to get a raise in pay.

Be ever on the lookout for some one to love and serve, and you will find that there will always be some one on the lookout for you.

To make one's self at home when visiting one should really do as he does at home. Surely one does not stay in the parlor all the time.

W. J. Burtscher.

The Parcels Post

In Farm and Fireside of January 25th Fred Grundy practically tells us to lie down and let the express companies and the retail merchants walk over us. That sort of advice must be highly satisfactory to the express companies and the retail merchants, but it ought not to be satisfactory to any farmer in the country.

I wouldn't be a quitter. The way to get a thing we want and that we ought to have is to go after it, and if we do not get it at the first attempt or the first hundredth, to just keep on going after it. If we are going to try, and then give up because we don't get it, then it will be a long time before we get the parcels post, and the express companies and the retail merchants are going to be correspondingly happy and contented for a good many years to come.

We certainly will not get what we want if we think as Mr. Grundy does. The parcels post we want would be no nearer in a decad than it is at present. We must keep everlastingly at it, with no let-up and no vacation until the people are educated and realize what a good thing a good parcels post would be to them; then they will demand it in a way that even Congress dare not ignore. The farmers of this country could have the whole thing within a year if they only united to demand it; but so long as they sit still and keep still, while the express companies and the retail dealers are using both arguments and money to influence Congress, there is not much chance for the people.

We must keep asking for it, and get our neighbors to ask, also. I do not think Farm and Fireside is going to stop urging for a parcels post, and I know there are other papers that will keep pushing, too. What is worth having is worth waiting and working for. When we give the matter as much attention as the express companies and the retail merchants do, then we will get what we want. It must be a campaign of education.

Whether we have parcels post or not, the retail dealer cannot expect to sell goods in these days at a profit of one hundred per cent. The people are becoming educated to the cost and value of the things they buy. When a catalogue house offers ground oyster-shells for poultry at thirty cents a hundred pounds, as one did a few years ago, while local dealers charged seventy-five cents, who can blame the farmer for sending away for the shells?

The farmer is interested in his home town, and wants to support it, but he doesn't want to do it to the extent of paying two prices for things, when the merchant claims the privilege of setting the price on all he buys of the farmer, as well as all he sells him. Does the local dealer go out in the country and buy corn of the farmers at fifty cents a bushel when he can get it from Kansas at forty-five? We all know he does not. He buys where he can get it cheapest, then he kicks if the farmer follows his example. The parcels post will not harm the merchant who is content with a reasonable profit, and the sooner he realizes it, the better.

Apollos Long.

SUBSCRIPTION PRICE

One Year (24 numbers) . . . . 35 cents
Four Years (96 numbers) $1.00
Canadian Subscriptions . { 1 Year, 60 cents / 4 Years, $2.00

Entered at the Post Office at Springfield, Ohio, as Second-Class Mail Matter.

Subscriptions and all editorial letters should be sent to the offices at Springfield, Ohio, and letters for the Editor should be marked "Editor."

The date on the address label shows the time to which each subscriber has paid.

Subscribers receive this paper twice a month, which is twice as often as most other National farm journals are issued.

Silver, when sent through the mails, should be carefully wrapped in cloth or strong paper, so as not to wear a hole through the envelope.

When renewing your subscription, please say it is a renewal, and if possible send the label from a recent copy. If all our subscribers will do this a great deal of trouble will be avoided.

PUBLISHED BY
THE CROWELL PUBLISHING COMPANY
SPRINGFIELD, OHIO
Branch Offices: 11 East 24th Street, New York City.
Tribune Building, Chicago, Ill.
Copyright, 1909, by The Crowell Publishing Company

ABOUT ADVERTISING

FARM AND FIRESIDE does not print advertisements generally known as "readers" in its editorial or news columns.

Mention FARM AND FIRESIDE when you write to our advertisers, and we guarantee you fair and square treatment.

Of course we do not undertake to adjust petty differences between subscribers and honest advertisers, but if any advertiser in this paper should defraud a subscriber, we stand ready to make good the loss incurred, provided we are notified within thirty days after the transaction.

FARM AND FIRESIDE is published on the 10th and 25th of each month. Copy for advertisements should be received twenty-five days in advance of publication date. $2.00 per agate line for both editions; $1.00 per agate line for the eastern or western edition singly. Eight words to the line, fourteen lines to the inch. Width of columns 2¼ inches, length of columns two hundred lines. 5% discount for cash with order. Three lines is smallest space accepted.

Letters regarding advertising should be sent to the New York address.

Another Hopeful Decision

IN DIRECT line with the decision of the Interstate Commerce Commission in the Milwaukee case referred to in the editorial on discrimination in freight rates published in our April 10th issue is a later decision of much broader scope.

The Interstate Commerce Commission, on complaint of the Indianapolis Freight Bureau against twenty railroads in the Central Traffic Association, had recently declared that these railroads are exacting unjust rates on traffic from Indianapolis to points in Missouri, Kansas and Nebraska as compared with rates on the same kind of traffic from Chicago.

The commission holds that the present class rates are unreasonable, that they discriminate against Indianapolis and give Chicago undue preference, prescribes a relative adjustment of rates from these two cities, and orders new maximum rates to be established by June 1st.

A point of special significance in the ruling of the commission is "that whatever might be the general effect of an order changing the rate structure for a typical point in a group, the commission could not deny relief for such point, for the sole reason that other points in like situation might be able to show that they were entitled to a similar order."

Under this broad ruling the way is open for a prompt general readjustment of rates all over the Middle West. It is now in order for every community in the Central Traffic Association territory to take immediate action for relief against unjust, unreasonable discrimination in rates. Its welfare demands it. The prosperity of all its citizens—merchants, manufacturers and farmers—depends on it. Now is the time to strike.

An important case now pending before the commission is on the complaint of Philadelphia against flagrantly illegal railroad discrimination in favor of New York. As the principle involved is the same, we may hope for another decision against the work of the few mighty ones in control of transportation to build up a few great cities at the expense of all others, because such concentration gives them more power over the trade of the whole country.

An Omelet of Eagle-Eggs

IT IS coming on now toward the time when you will call your dog off a stranger, who will want to know whether you are male or female, white or black or red or yellow, how old you are, whether you have had the mumps, measles, chicken-pox and croup, how much you owe and whether you ever expect to pay it, how many times convicted of a penitentiary offense, how many children you have and whether they are white, black, red or yellow, what lodge do you belong to, and have you the "makin's of a cigarette" on you.

He will be gathering material for the next instalment of the great continued story, entitled— Let's see; what is it entitled, anyway? They call the instalments "census reports," but what is the name for the whole big story? A good one might be "The Proof of the Pudding," or, "The Eagle-Bird as a Domestic Fowl," or, "The Republic—Will It Endure?" No, that last won't do at all. It was the title of the drowsiest lecture ever heard tell of, delivered by General N. P. Banks. Not remember General Banks! Go read the history of your country and learn about the hero of the Red River cotton expedition.

It will be a great relief to all to get some new figures to work on, so as to prove whatever you're a mind to by them. What some people call "the statistics" of 1899 are getting shop-worn and finger-marked, they have been pawed over so many times. We need some new ones, more up-to-date and stylish.

Just as we eagerly grab at the new number of the story-paper to find out if She's any nearer getting Him than She was the last number, so we shall be all excited and fluttered to learn what the decad, now almost complete, has done to our own dear land.

When the new census report comes out we shall know how many more of us there are than there were in 1899, after offsetting those who came in by the front door from the south of Europe (and their names from the south end of the alphabet) with those who went out of the back door into Canada, common, ordinary folks with names that you can spell when you hear them, and pronounce when you see them. We shall learn how much the output of the nation's goods has been increased, and, naturally, from that how much more each citizen has gained. Oh, there are lots of things we shall find out about. It is hard to wait in patience.

But there are some things in particular that the farmer will be interested in, after the figures have all been collected, and tabulated, and printed, and then dug out again by those patient and industrious souls whom nothing can daunt, and whose nose for facts is so keen and sensitive that not even the smartest census-maker can hide them away with entire success.

It would be an extravagant expectation to look for as thoroughgoing and scientific a report as those which the effete monarchies of Europe put forth. They go at it as a cold, hard business proposition, whereas ours is a charitable enterprise, a sort of "outdoor relief" for broken-down politicians who have served their country well and now need to be looked after in the sunset of their days. The true patriot should be well satisfied if the figures for the 1910 census are collected on a basis somewhat similar to that of previous reports, so that there will be something to go on in comparing them.

* * *

Nevertheless, there will be, beyond a doubt, statistics by which we can determine whether or not the rush of population to the city from the farm has been somewhat checked or is still accelerating. They work 'em twelve hours a day and seven days a week and every two weeks a twenty-four-hour day at the Carnegie Works in Homestead, and the wages are one dollar and sixty-five cents a day, and if you are a faithful and industrious man, and a ladle of white-hot steel tips over on you, and you flash up like grease spilled on the fire, they send around a floral piece of "Gates Ajar" to comfort your widow, but not a cent for the undertaker. He doesn't present a bill. There's nothing to bury. It will be interesting to know if farm boys are still lured from their homes to the luxurious life of the iron-works in the proportion that they were.

There will also be data on the proportion of mortgaged to unmortgaged farms. It is to be hoped that there will still be farm mortgages, not only because it facilitates the buying and selling of any real estate at fancy prices to have it mortgaged up to the hilt, but also for the sake of the drama, so that, just as the smooth villain has old Farmer Corntossel where the hair is short, the long-lost son whom the old farmer drove from his door yaz and yaz ago may come back, richer than Rockefeller, and save the old place.

It will be interesting, too, to know if the proportion of tenants operating farms to owners operating farms continues to increase at the swift rate it had from 1880 to 1900, and whether the farms run by a manager with hired laborers, somewhat on the factory principle, have grown in size and popularity as they once bade fair.

But to dwell too long upon such points of interest were to seem to be more interested in the hole than in the doughnut. To be sure, it would be rather strange if there could be a doughnut that wasn't mainly and essentially a hole, but probably the next instalment of "The Eagle-Bird as a Domestic Fowl" will furnish grounds for believing that the hole does not exist.

A Tariff Commission

THE absolute failure, so far, of Congress to draw up a bill providing for an honest, thorough revision of the tariff has greatly strengthened popular sentiment in favor of establishing a Tariff Commission, or permanent board of able men who have practical, expert knowledge of American industries, and who are not under the domination of special business interests or political leaders.

It is not such a great problem to ascertain the difference between the cost of production at home and the cost in foreign countries, which is the only true basis of a protective-tariff system.

If the Aldrich Bill in its present form becomes a law, tariff agitation will continue and result in demanding a new bill from the next Congress; and it will be a new Congress, too.

Back Talk to Lewis

Letters From Readers

EDITOR OF FARM AND FIRESIDE:—

I admire Mr. Lewis' politics. Give him all the room he wants and tell him not to mince his words.

Virginia. JAMES ROGERS.

EDITOR OF FARM AND FIRESIDE:—

I like the way Mr. Lewis writes for your paper. I hope he may live long and stick to his task till we have not a Roosevelt or Taft administration, but one that every right-thinking man can call his own.

New York. WM. H. GIBBS.

EDITOR OF FARM AND FIRESIDE:—

I voice the sentiment of Charles Henderson from Pennsylvania in the February 25th number, for a family paper without politics. We get so tired of the everlasting harangue in our county papers. The FARM AND FIRESIDE is too good a paper to be spoiled with politics. I. SINAN.

Pennsylvania.

EDITOR OF FARM AND FIRESIDE:—

I am a new subcriber to your paper, but I am deeply interested in political matters, and approve of your policy of devoting one page of FARM AND FIRESIDE to politics. It is fitting and most urgent that real high-class politics, the kind that makes for good government, the kind that would confer the greatest good upon the greatest number, should be not only read by all, but should be studied by all. It is important that fundamental principles of real, not bogus, political economy should be understood by each citizen in a self-governing body of people.

Don't be afraid to lay down a few underlying truths. They may provoke discussion, but discussion is what will make the page interesting and valuable.

For instance, "Labor produces all wealth." This will create discussion, but the discussion would hurt nobody.

Another instance: "Every child born into the world is entitled to equal opportunity with every other child."

Here is another: "Child labor is a disgrace to any country wherein there exists an unemployed army of willing and able-bodied men."

Another: "Justice demands an exchange of equivalents."

Massachusetts. S. M. JONES.

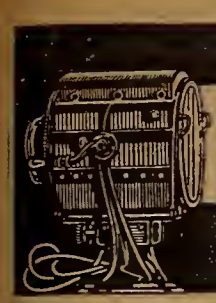
EDITOR OF FARM AND FIRESIDE:—

Politics, not partizanship, is a proper subject for farmers to study. The study of political economy is for all men. True politics is applied political economy in part. Much that the public should know is not published in the daily papers. Neither of the old parties can lay claim to originating reforms. Take Direct Legislation, for instance. Do the other papers tell the farmer about it? No; they sneer at it as a Socialistic measure. All good ideas have been started outside of either orthodox party. The other papers do not tell the things we should know.

Let every farmer make a study of politics, both theoretical and applied. Let every law be posted in every post-office before it is passed by the legislature. Let the people themselves have a chance to veto any law that does not suit them. The study of pulls and jobs, of places and profit, is not politics. When it comes to true politics, let every man be a politician. The people must become active politicians before the country will be safe. They must study laws and lawmaking.

Not one farmer in a thousand knows what bills are before his legislature this minute. Not one politician in ten knows anything about the science of government or the wants of the people. They know the fat jobs and how to get them, and they ride out once in a while and give the farmer his orders, and the farmer goes to the caucus and does the very thing he would not do if he studied the truth. Neither of the old parties wants the farmer to know too much. If we can't get the truth in our farm papers, where can we find it? The time has come when the farmer must take a hand in lawmaking. Let the people know what is going on.

Michigan. RICHARD H. WOOD.



In the Public Eye

By Alfred Henry Lewis

NOTE—Of late I've been in Washington watching the tariff fight. Later I shall have something to say about that tariff and the people concerned with the making thereof. Also, of Mr. Taft, Mr. Cannon, Mr. Payne, Mr. Aldrich and what others have had a leading part. It's too soon now. The show, too, is on the move. Were I to talk of what is happening now, it would be all in the past before I could lay it before you. I shall let our statesmen get through. Then you and I and all of us can take up their finished work, and see how well or how ill they have redeemed those promises which put them where they are. Renewing old acquaintances, revisiting old scenes, set me to writing what newspaper memories I put before you in this issue. I feel a bit guilty; but the temptation was strong. I couldn't resist it.

* * *

IT WAS A COLD, RAW BOSTON DAY of snow, and after I'd sent in my letter of introduction to the musical banker, I backed up to the broad, flame-filled fireplace in the outer room.

The banker who loved music came out. He was broad, thick, strong, energetic, direct, and reminded me a little of Joseph Bounderby, of Coketown, in Dickens' "Hard Times."

"What can I do for you?" he asked.

"Tell me about music in Boston."

"All I know about music in Boston is that it costs me forty thousand dollars a year. If you want to learn more than that, I'll have to give you a letter to an Italian I imported, who can unfold it to you from 'A' to 'Z.'"

Explaining that I was obliged to make a trip to Concord, as well as visit Harvard College before I returned, and lacked the time to interview that gifted son of Cæsar to whom he pointed, I said he needn't mind.

"There's one thing, however," he observed, gently detaining me by the buttonhole, "which I do know about, and upon which, considering that you represent a Western newspaper, I'd like to talk. That is, the money-question. For the life of me, I can't see why the West should be for silver. The West borrows money. Now, if I'm borrowing money, it behooves me to borrow the best money. To my mind, the West, being a borrower, ought to be foremost for gold. If I lend money I can afford to lend the worst money in the world." From this point and that strain he talked gold in all its bearings for twenty minutes.

Now, my paper was a silver paper.

"Plainly," thought I, "it can't use these golden views. Kansas and Missouri would have a fit."

And so, after I'd caught my banker's text and the drift of his money sermon, I heard no more.

When the banker lapsed into silence, I thanked him, disengaged my buttonhole, and crept softly out into the snow. Returning to Washington, and writing a report of my wanderings to the editor, I recounted the lack of musical knowledge on my banker's part, and spoke of his gold talk.

"But," I added, "of course, being a silver paper, we can't use that."

The editor, privily a gold bug, took a different view, and asked me to write the banker's interview. He said the responsibility would rest with the banker, and not with the paper.

The reply of the editor was vastly discouraging. How could I write out an interview, no word of which, following the opening paragraph, I'd heard? At this crisis I resorted to the diplomacy of silence. I wrote nothing, said nothing, hoping the editor, in the grinding midst of his other troubles, would think on something else. But he didn't; my silence seemed to sharpen him. Presently he wrote again; he must have that banker's interview.

In the newspaper game there is one word which would never find employment, and that is the word "forgot." It wouldn't do to say that I couldn't remember that Boston banker's gold outburst. What was to be done? Being trapped, I sat down for reflection. I reflected that all gold talks must, in the very demands of the subject, be more or less alike. If a man told me that he had gone from New York to Washington over the Pennsylvania Railway I would know that he went through Newark, Trenton, Philadelphia, Wilmington and Baltimore. Knowing that my banker had talked for gold, it was just as sure he had offered the usual arguments, and buttressed them by the usual statistics.

Coming to this sage conclusion, I sought the document-room, and got a then-recent speech of John Sherman. With this great light to guide me, I dictated an "interview" for my banker, furnishing my own English, but following the Sherman line of argumentative march, and making sure to begin with that text which I remembered about the propriety of the West, since it was a money-borrower, being first and last and all the time for gold. This I sent on, and my gratified paper printed it with head-lines laudatory of my banker, who, it said, while wrong, was so capable of an iron-bound logic as to be almost invincible in his error.

It is not too much to say that I should have thanked my lucky stars at being well out of the business if the affair had ended at this and I'd heard no more about it. It could not be, however; I was not to escape without compliments. It was the mere matter of a few days, when I received from my banker a letter pulsating with gratified admiration. He said that he had read my report of the interview I'd had with him in wonder and pleased amazement. He had noticed, not without some chill of doubt, that as he talked I took no notes. He had even asked in his mind, as he goldfully delivered himself:

"How in the world is he to remember all this?"

And now to read himself reported for three columns, word for word, without the crossing of a "t" or the dotting of an "i" omitted, was to stand in the presence of a miracle! Never had he heard of such a memory!

Did I reply and put aside the tendered crown? I was no such foolish Cæsar! Did I relate to him in condemnatory black and white the truth? Never! I accepted every rose of encomium wherewith he pelted me, and stood, so to phrase it, bowing and blushing, the picture of modest merit.

* * *

THE ICY HARRISON DWELT in the White House. Also, that he would ask a renomination was not a secret. Besides such political welter-weights as Messrs. Alger and Cullom, Secretary Blaine, who held the portfolio of State, was also being presidentially discussed. He himself had kept mum; on his candidacy, like the lamb before the shearer, he was dumb, opening not his mouth.

The Blaine silence, plus the Blaine prominence, made what should be that statesman's final nominational course a question of much newspaper urgency, one which the editors at the other ends of the wires were clamoring for us of the "gallery" to answer. How were we to answer it when never a man jack of us could get close enough to the mute secretary to give him a diamond ring? How was anybody to answer it when for months on end, until late in February of convention year, Mr. Blaine couldn't have answered it himself.

The situation offered the possibility of a majestic "scoop." It was I who registered that "scoop," thereby gaining glory with my paper. The deep intelligence I manifested in treeing it will be shown when I tell the story.

It was in the first fringes of an early February twilight. I was on my way to the bureau in F Street when I met a fellow-bondman of the gallery. With the same hope of important results that I should have entertained had I gone fishing in a bath-tub, I asked what news was afoot. Thinking at the time as little of his reply as I did, my fellow-bondman returned that the only thing he could recall, in the congressional pickings and leavings of a dull day, was that Mr. Cullom had received a letter from Mr. Blaine. He had not read the letter; neither had the clam-like Mr. Cullom vouchsafed any least hint of its contents.

When I made ready that evening to write my despatch—for it is an editorial theory that whether anything has happened or not, a despatch of regular length must come forth with the close of every day—I ran carelessly over in my mind that Blaine letter. I argued in this wise: The letter must be about the candidacy of Mr. Blaine, since that was the only subject which should evoke a communication from him to Mr. C. Assuming that Mr. Blaine would not announce himself a candidate in advance of resigning from the Cabinet—for to be a candidate against Mr. Harrison, while hugging to his ambitious bosom Mr. Harrison's portfolio of State, was a mark beyond even the tough fiber of the man from Maine—I backed rapidly into the belief that Mr. Blaine had written a letter declaring himself no candidate. This sagacious belief was assisted by the presence in town of Mr. Alger. The Michigan man, with riches in excess of his wit, and ambitions in excess of his riches, was as eager for a presidency as a black bass for a frog. Mr. Alger had come to see Mr. Blaine. He was now hovering around Mr. Cullom. Doubtless the big Maine man had told the little Michigan man that he would set forth his final White House position in that letter to Mr. Cullom; which last would be a perfect reason for the little Michigan man's present Cullom solicitude. As say the detectives, all the clues pointed to the above. Whereupon I boldly decided that Mr. Blaine had sent a letter saying his name would not go before the convention.

Being of a positive nature, and having ever held that it is safer to stand firm with the wrong than wabble with the right, when I had once settled the character of that Cullom-Blaine communication I neither hesitated nor held back, I let the story go confidently forth, and in nowise tied a timid string to any part of it. It would have spoiled it as a "scoop" if I had.

The sequel justified my hardihood. The next night the Associated Press was carrying that Cullom letter, wherein Mr. Blaine turned his back on all convention consideration. Thereupon my paper was quoted and congratulated throughout our broad land on being twenty-four hours ahead of the news-hounds.

In the same Blaine connection I recall another experience which may serve to illustrate how news is made and handled. Three months went by, and the Minneapolis convention was no more than weeks away. The Blaine boom—for the anti-Harrisonites were desperate for lack of timber—had again broken loose. The word was abroad that Mr. Blaine had reconsidered that Cullom letter, and was about to announce his candidacy. Meanwhile no one, certainly no newspaper one, could reach Mr. Blaine, who lay as snug as the proverbial bug in the proverbial rug at his house in Lafayette Square.

The man on guard at the Blaine door was a lethargic Senegambian. He just knew enough to vote, and to not tell the folk inside what was happening outside, or the folk outside what was happening inside.

Having studied the catfish passivities of the Blaine black man, I became flooded of a brilliant thought. I wrote myself the following wire:

> Kansas City, May 1, ——.
> Story here that Blaine has written second letter reiterating position taken in Cullom letter of February. See Blaine and verify.
> "The Times."

My home-made message having been adorned with those hieroglyphics and curlicues so dear to the telegraphic heart, I walked briskly to the Blaine door. The dull Senegambian dully met me. Thrusting the "message" hastily into his hand, I said:

"Take that at once to Mr. Blaine! I'll wait here. Look sharp now!"

The suddenness of the thing swept the Senegambian off his feet. Doubtless my pretended excitement, coupled with the fact that Mr. Blaine was Secretary of State, led him to think me from the State Department hurrying across with some just-received declaration of war. Be that as it may, he caught the seeming ferment of my spirit, and darted inside.

It was beyond my hope that Mr. Blaine would vouchsafe an answer. However, for that I didn't care. The "message" had gotten by the door. That of itself would furnish raw material from which to weave a story.

It befell as I had surmised. The Senegambian came back, looking as though—metaphorically—he had been both cuffed and kicked, and reported with a groan:

"Mistah Blaine ain't in, sah!"

Thereupon I wrote a darkling despatch, quoting my "message," reciting how it had been taken to the house of Mr. Blaine, and sent inside for an answer. Likewise how, after a profound, not to say pregnant, five minutes, the black servitor, wearing looks of grief, had returned to say that Mr. Blaine wasn't in. To this I added:

"And yet Mr. Blaine was in."

Every word of this constructed news was carefully true. Still by the very sound of it, the whole became self-invested of an atmosphere of mystery. Mr. Blaine was in. He had received a message which in effect declared that he would not be a candidate. None the less, so far from either agreeing or denying, he had dodged and sent out crafty word that he wasn't in! What would be the deduction? What, indeed, save that Mr. Blaine would be a candidate. The telegraph editor of my paper, as he marked the thrilling tale for triple leads, rose to such heights of excitement that he strung above it the "head," three columns wide, in huge black-face types:

"BLAINE IN HIDING."

"From Exile, Home"

By John J. a'Becket

Illustrated by Harriet A. Newcomb

It was almost twilight as Margaret Rivers turned her footsteps homeward. Ever since her mother's death, this long afternoon walk had been her greatest consolation. She would leave the large, luxurious house overlooking the river, and passing through town, come out beyond the "breakers" till she reached the sweet country stretches. Many of the miners had their homes there, dotting the sunny woods and slopes.

She had been told that Karl Erhard lodged with one of them, a stalwart Welch miner with a big bass voice.

The young German had come to Barwilkes two months before. What brought him to this rich interior mining town of Pennsylvania was the hope of winning the Clare Prize. Two pleasant incidents had seemed the happiest auguries to him.

Mrs. Clare Rivers had been an accomplished musician. She had not yet been dead a year. Margaret had hurried home from her own musical studies in Europe when the cable told her of her mother's illness, and she had the melancholy satisfaction of being at her bedside when she breathed her last. Barwilkes had not heard Miss Rivers' voice since her return, but report of its exquisite quality and sympathetic character had aroused a very general desire to know how training had developed it.

Mr. Rivers was one of the richest of Barwilkes' men who had reaped large fortunes from the surrounding mines. Margaret had suggested founding the Clare Prize as a fit memorial of her musical mother. It was a purse of one thousand dollars for the best composition for full orchestra, chorus and quartet voices. This thoughtful, handsome German stranger had written "From Exile, Home," for the competition, and had been strenuously training his singers and players for the past week. The festival was to come off in ten days, at which this competition was to take place.

Margaret Rivers' connection with the composition of Carl Erhard was something that afforded happy musing to the girl. She was an accomplished harpist, thoroughly versed in the organ, as well as being a brilliant singer. Music was a passion with her. Six weeks before, as she was improvising on the organ one spring evening, the soft thoughts of her heart pouring themselves into softer chords, and loving regret, peaceful hope and Christian repose, blended in the stream of music which floated through the open window. Her mind was utterly preoccupied with the memory of the mother who had passed to a still fairer spring.

Outside, in the gathering twilight, she had an eager auditor. Karl Erhard, completely absorbed in the melting strains, leaned on the railing, his eyes gleaming and his lips slightly parted. Suddenly he rose erect, drawing in a long breath, then departed so suddenly that he had the air of taking flight.

Three days later Miss Rivers received a note from her unknown auditor. It was ardent, artless and dignified in its straightforward simplicity. He told of the scheme of the composition which he was writing. He wished to depict the passage of a pure soul from earth, through death, and its exultant entrance into the place of rest. Choruses of angels welcomed the soul in a series of ecstatic outbursts. As they closed in a climax of interblending harmony, the soul responded in a burst of rhapsodic joy, the strain rising above and dominating the outpour of the angels' song. This was to be the climax of the whole work. It had seemed impossible for the young fellow to get the melody and development for this thrilling aria. As he leaned on the railing and heard the improvisation of Miss Rivers that spring evening, his soul kindled to the very expression he sought. He had hurried home and jotted the theme down. When he had worked it out to his thorough satisfaction, he wrote to the young woman to tell her what he owed to her, begging her leave to use thus what she had so unconsciously supplied to him.

She assured him of her happiness in having such a share in his work for the prize, and expressed warmest wishes for its success. This last week she had assisted at every rehearsal, and not only had been deeply stirred by the large, noble character of the young German's composition, but almost knew this greatest aria by heart. It stirred her very soul. Naturally, his ingenuous ardor, modesty and utter devotion to his art appealed to her. He looked like a Viking and spoke like a melodious dove.

So in her afternoon walks out in the fair country beyond the big, dark "breakers" the girl often felt glad that this intense young nature had an environment which accorded so well with his present pursuit. She had never been so late before in starting back as to have the shadows lengthen thus among the grassy slopes. Which one of those little white cottages was Evan Morgan's? While she was looking at them, a man came out of the rear of the one at the end, with a small bag in his hand. He looked around in a hurried, nervous way, then struck off up the road briskly.

An instinctive feeling led her to follow him. The man hurried straight on till he came to a lonely deserted mine. Here was a deep gully, through which brawled a stream. A huge mound of culm sloped down to one side of it. Pausing on the brink, the man cast a furtive glance around. Then, with as strong a swing as he could give, he hurled the bag down the gully. It lodged on some rocks near the stream. Then he retraced his steps. Miss Rivers had concealed herself among the bushes on the side of the road, and he passed her without knowing it. She recognized him as a local musician who was competing for the Clare Prize!

She walked back to the cottages and knocked at two or three doors before she came to Evan Morgan's. Young Erhard was out, but would be back soon. She decided to await his coming. His radiant smile of greeting on finding her there roused a sweet pity in her. She asked if she might look at the score of his composition for a few moments. With delighted assent, he left the room to get it.

She heard him turning over papers and walking around the adjoining room excitedly before he came back, pale and breathless. "It is gone!" He threw out his arms tragically. "It must have been stolen, for a small bag is also missing."

His suffering made her tell him quickly of what she had seen, although she refrained from showing that she knew the thief's name. Late as it was, she accompanied him back to the deserted mine, and showed him where the bag lay at the bottom of the culm-heap. After some effort, he recovered it with no more harm than soiled raiment and scratched hands.

His gratitude was intense. He accompanied her back, and she did her best to encourage him. He left her with renewed protestations of gratitude and confidence.

"She . . . sat down, and softly sang the jubilant, exultant strain"

It was the night he had looked forward to with the feverish longing of ambition. He stepped to the conductor's stand, his eyes bright, a red spot of color on each cheek, and raised his baton.

The first part of his composition went to his heart's desire. The orchestra, chorus and soloists caught his fire, and responded to his direction. The large audience greeted his work with generous enthusiasm. Again and again the young German was obliged to answer their repeated plaudits. Everybody awaited the second part with a fluttered delight. It must be good; could it add a climax of superior worth? He knew how much the success of that depended on the soprano and that crowning aria.

During the intermission the young woman who sang that part grew suddenly weak and faint. A glass of water and smelling-salts failed to revive her. A physician who had been called in from the audience declared she must on no account attempt any more.

Karl Erhard sat down, pale and with every nerve unstrung. It was out of the question to give the second part with the soprano solo omitted. Here, with victory in his grasp, he was forced to see the coveted prize, which meant so much to him, slip from him when his hand was actually closing upon it.

He was conscious of a person standing at his side. It was Miss Rivers, a faint flush on her face, but with a lovely look in her eyes. His heart gave a great bound. She had been his mascot from the first. Her very presence meant new hope.

"Mr. Erhard," she said, speaking rapidly and with a charming modesty of manner, "I have heard of the trouble with the soprano. You know I am very familiar with the part, through having assisted at the rehearsals and my study of your score. If you care to have me attempt it, I will do so."

"He could only clasp his hands, look into her eyes as one might gaze upon a descended angel, and murmur, "Oh, can I thank you enough! If you undertake it, it will be a success."

Accordingly, it was announced that Miss Rivers had consented to take the place of the soprano, and the consideration of the audience was asked for one who so generously essayed a part she had never rehearsed with the others. The action of the young woman was highly appreciated, and the eagerness to hear a voice of which so much had been said in so unexpected a fashion made everybody await the outcome with increased interest.

In the rehearsals that glorious air had come home to the bereaved daughter with moving force. Now, under the excitement and sense of how much depended on her, she felt as if she were singing her own mother's hymn of triumph and exultant beatitude. She forgot all but the music and sentiment of the words, and her voice poured forth its mellow, vibrant volume of sympathetic tone with thrilling passion. The young German could hardly restrain himself, and the audience was swept off its feet. As the last, high note died away in a tremulous whisper, a storm of applause greeted her. Nothing would do but that, after the composer had responded to half a dozen calls, Miss Rivers should appear and receive the thunderous cries and handclapping of her townsmen.

Karl Erhard's "From Exile, Home," received the Clare Prize without one dissenting voice. It had been rumored in Barwilkes that the composer, who had come there with this aim in view, meant to go to Germany to study with one of the best masters in composition if he won the prize. Yet for weeks he lingered. Finally, one day he called on Miss Rivers.

"I have to say good-by," he remarked constrainedly.

"You are going abroad, I hear," she returned.

"Yes. I am going into exile. I wonder if I shall ever come home, 'From Exile, Home.' Oh, Miss Rivers," he exclaimed passionately, his long-pent-up emotions breaking forth, "I have little heart for fame, or music, or wealth, unless they lead me to something better still. You have been my success. You were the inspiration of my work, and when all seemed lost, came to the rescue and saved it. You found the score when it was stolen, and you made a new one of it when you sang it in a way to make me wonder if I had written anything so beautiful. Could a man help loving a woman who had been so much to him! I love you so that I do not care to live if I cannot have you near me. Oh, if I should win fame, make a name for myself that the world will recognize as an honor to a woman to receive, is there any hope that I can win your love? Oh, if you could give me a spark of hope, I can do anything. If you say you cannot, then I must go, leaving my heart at your feet, and your memory will be the dearest thing I shall ever know. You have come into my poor life like an inspiration, like an angel, and have filled it completely. Give me one ray of hope, and I shall go the happiest man alive."

She had heard him with downcast eyes and emotion. His gratitude she knew, but for this impassioned outpour she had not been at first prepared. His long speech, however, gave her time to reflect. She, too, had had her hours of delicious, pensive thought about him. She had learned much of his family in Dresden, an excellent, if poor, one. His own soul she knew better than he thought.

She knew, too, her own heart as well. Never had any of the Barwilkes' young men stirred anything in her akin to this. She knew her father would refuse her nothing. Besides, she was independent through the fortune her mother had left her. Why should she not meet his ardent simplicity with something in kind! The aria from his work which expressed the joy of the soul on entering into its blessed heritage came to her mind: "Here will I rest with Thee, my Lord, for Thou alone art all I crave."

She rose, smiling faintly into his glowing eyes, walked slowly to the organ in the music-room, and sat down. Preluding a few chords, she softly sang the jubilant, exultant strain; not in the brilliant, triumphant way of the night she had saved Karl Erhard's work, but thrillingly, so sweet and solemn was the manner of her rendering it, it seemed another thing.

At the last, low note she turned her head. He was kneeling at her side, his face radiant, his eyes like glittering sapphires in their humid brightness. She had answered him in the way he liked best of all. There was no need of words.

Novel Church Socials

Clever Ideas for Lessening the Church Debt

A Shadow Auction

CONSIDERABLE money may be raised and a pleasant evening assured when a church society plans to give a shadow auction.

The invitations are on cards decorated with silhouettes of pretty girls, and read as follows:

"You are invited to attend a Shadow Auction and Supper given by the Woman's Society of ——— Church on Wednesday evening, May —, 1909, at 8 P.M."

"R. S. V. P."

These should be sent to an equal number of young women and men. Then where regrets occur, fresh invitations must be issued, because those who attend must be divided into couples later on.

Each young woman must prepare and bring with her a basket luncheon for two. It should be as dainty and appetizing as possible. This basket serves as her entrance fee.

A large shadow curtain is used to divide the room or rooms in which the auction is to be held. The young men are ushered into one end of the room and the young women into the other.

Then a member of the committee explains that the different shadows which pass on the curtain are for sale to the highest bidder, who not only secures the silhouette maiden for a partner, but shares with her the supper she has prepared. Bidding begins at twenty-five cents, and may be raised according to the regular rules of auctions.

Then the room is darkened, and the silhouettes drift along the curtain. Each shadow passes along the curtain and returns, in order to give the prospective purchaser a good view. The silhouettes are quickly bid in, and the lucky man is ushered into another room to meet the maiden for whose society he has paid.

When the last man of the party has been introduced to the last shadow, the curtain is removed, and small tables rolled into the foreground. Shadow and purchaser enjoy the contents of the basket, and warm or cold drinks are served by the members of the committee.

After supper, games or music complete the evening's pleasure.

A Novel Tea

A NEW idea for a church social is a tea. The invitations should be written on blue paper cut in the shape of tea-pots. Ten cents admission may be charged if more money is wanted than the sales will bring. The room should be decorated with large cardboard letters "T," draped with flowers and vines.

All kinds of tea in fancy and plain cans and boxes should be for sale, also fancy cups and saucers, tea-pots, tea-strainers and tea-cloths. On one table have tea-cakes, sandwiches, fancy cakes and bonbons, and on another table have fancy tea or chafing-dish aprons for sale.

An effective touch might be given to the tea by using Japanese costumes and decorations.

A Waist-and-Arm Social

THE invitations should read as follows: "A Waist-and-Arm Social to be given by ——— at the residence of Miss ———. A fine program and refreshments will be given.

"'Tis money makes the world go 'round,
'Tis waist that makes the arm go 'round;
But a combination of the two
Is a pretty good thing, we think, don't you?
Now a waste of money is a sad thing,
But well invested interest will bring.
A little investment we ask of you,
To raise some money—our end in view.
But the waist of a girl is another thing,
And an arm around it will surely bring.
So waists and arms are what we ask,
To help us accomplish this difficult task.
Each girl must measure her waist with care,
A penny an inch will be her fare.
We hope it will be very large,
But for that we ask no extra charge.
Each man must measure the length of his arm,
And a few pennies more will do no harm.
Now put these pennies in this bag,
Which you will find herein,
And receive ten-per-cent interest
On all that you put in.
So don't forget the time and place,
A penny an inch for HIS arm or HER waist.
All come and let the pennies abound,
And no waste of money will be found."

Of course the invitation explains itself. A light supper may be served. It may consist of dainty chicken sandwiches, a salad or two, olives, ice-cream and cake.

A Bonnet Party

A UNIQUE way for raising funds for church or other purposes is a bonnet party. The invitations should be in the shape of a sunbonnet cut from a piece of white Bristol-board, with the date and meeting-place on the outside. Inside write the following verse:

"Come to ———
On Wednesday night
And ply your needle
With all your might.
A feather here
And a ribbon there,
Be sure to suit
Your partner fair.
Then bid for your lunch
Five cents or a dime,
And we hope that throughout
You'll have a good time."

Collect all the old hats, flowers, ribbons, etc., you can, and have needles and thread for all. Partners are chosen in this way: The ladies form a line in one room and the gentlemen in another. To the tune of a march they file in, taking their partners as they come. Place a large table in a convenient place in the room, and as the couples file past, each one takes a hat and some trimmings, needle and thread, and when all are supplied, the contest for trimming begins. Each one is allowed twenty minutes to trim their hat, and a suitable prize (books, pictures, box of candy, etc.) is given to the lady or gentleman trimming the best hats. The hats should be worn until lunch is served or throughout the remainder of the evening, the partners exchanging hats. Lemonade may be sold at five cents a glass and box lunches may be auctioned off.

Attractive Church Supper

A NOVEL and attractive church supper was recently held in our city. Twelve tables were arranged in the lecture-room, each table representing different months of the year.

The JANUARY table was decorated with tinsel, cotton batting and diamond-dust in representation of ice and snow, while "Father Time" and the "New Year" were represented at the top of an imitation mountain of ice and snow.

The FEBRUARY table was decorated in hearts and valentines for Saint Valentine's Day.

The MARCH table was done in green, in honor of Saint Patrick. The center-piece was a green-and-white fern-dish filled with shamrocks and white clay pipes, and the traditional snakes of Ireland were represented by candlesticks in the form of serpents.

APRIL was an Easter table, decorated with festoons of yellow and white, from the center of which was suspended a cluster of Easter eggs. Early spring flowers and Easter lilies were used.

The MAY table was especially attractive. In the center was a tall pink May-pole, while circling about the base were little dolls dressed in pink and white and holding the pink and white streamers. Clusters of pink May blossoms completed the decoration.

JUNE, the month of the "sweet girl graduate," was decorated in the colors of a local college. In the center was a large doll dressed in cap and gown and holding a diploma.

JULY was decorated in the national colors, and in the center was a cluster of flags.

AUGUST, the vacation month, was in pale blue, and the center decoration represented a glimpse of sea-shore, on which was a tiny tent, fishing-tackle and little boats.

The SEPTEMBER table was done in fruits and autumn vines.

OCTOBER was represented by ears of corn, a pumpkin in yellow crêpe-paper and little jack-o'-lanterns.

NOVEMBER represented Thanksgiving. In the center was a miniature farm-yard surrounded by a rail fence, and in the center of this was a straw stack, on which was mounted a turkey-gobbler. At one end was a chicken-coop and chicks with the mother hen.

The DECEMBER table was decorated with Christmas trees, Santa and reindeer, and lighted with holly candles.

All the tables were lighted with candles to harmonize with their decoration.

The supper may consist of thin slices of chicken salad, sandwiches of all kinds, pickles, olives, layer-cakes, assorted cakes and cookies and coffee. The ladies of the church have the supper in charge. Generally one person furnishes one article of food. The tickets may be sold for twenty-five or fifty cents, according to their own discretion.

M. H. O.

Read It Again

—the editorial in this paper published Feb. 25th entitled "Buy Bound Books," and then follow it up by reading Edgar L Vincent's article in March 10th issue, "The Farmer and His Reading."

You'll see the reason why you should send for the free catalog telling about Globe-Wernicke Elastic Bookcases.

Address Dep't 25
The Globe-Wernicke Co.
Cincinnati, Ohio.

Let Us Flood Your Home With Light

Reliance Acetylene Generators are so perfect and easily installed that our customers can pipe their homes in a few hours' idle time and save heavy gas-fitting expense. We furnish complete working plans and allow

30 Days' Free Trial

The Reliance Generator has no superior for efficiency, economy of operation and low cost of machine. By making your own installation you save many additional dollars, and if you have not the necessary tools we will lend them to you.

Acetylene lighting is safest, best and cheapest. Write for our beautiful free booklet today, and give us a short description of your house.

102 Hickory St. THE GEM CITY ACETYLENE GENERATOR CO. Dayton, Ohio

Here Is Something New From Kalamazoo

Prove for yourself in your own home, that the Kalamazoo is the most perfect—most economical—most satisfactory range for you to use—Your money back if it's not.

Send for Catalog No. 183 with special terms and compare Kalamazoo prices with others

Cash Or Time Payments

We want every housewife to know the comfort and convenience of a Kalamazoo in her home. You can buy on **easy time payments** or pay cash if you like. Either way—you save $10 to $20 on any stove in the catalog. We make it easy for responsible people to own the best stove or range in the world.

We Pay the Freight

Kalamazoo Stove Co.
Kalamazoo, Mich.

"A Kalamazoo Direct to You"

10 DAYS FREE TRIAL We will ship you a "RANGER" BICYCLE on approval, freight prepaid to any place in the United States *without a cent deposit in advance*, and allow ten days free trial from the day you receive it. If it does not suit you in every way and is not all or more than we claim for it and a better bicycle than you can get anywhere else regardless of price, or if for any reason whatever you do not wish to keep it, ship it back to us at our expense for freight and you will *not be out one cent.*

LOW FACTORY PRICES We sell the highest grade bicycles direct from factory to rider at **lower prices** than any other house. We save you $10 to $25 middlemen's profit on every bicycle—highest grade models with Puncture-Proof tires, Imported Roller chains, pedals, etc., at prices no higher than cheap mail order bicycles; also reliable medium grade models at **unheard of low prices.**

RIDER AGENTS WANTED in each town and district to ride and exhibit a sample 1909 Ranger Bicycle furnished by us. **You will be astonished** at the *wonderfully low prices* and the liberal propositions and special offers we will give on the first 1909 sample going to your town. **Write at once** for our *special offer.*

DO NOT BUY a bicycle or a pair of tires from *anyone* at *any price* until you receive our catalogue and learn our low prices and liberal terms. **BICYCLE DEALERS:** you can sell our bicycles under your own name plate at double our prices. Orders filled the day received.

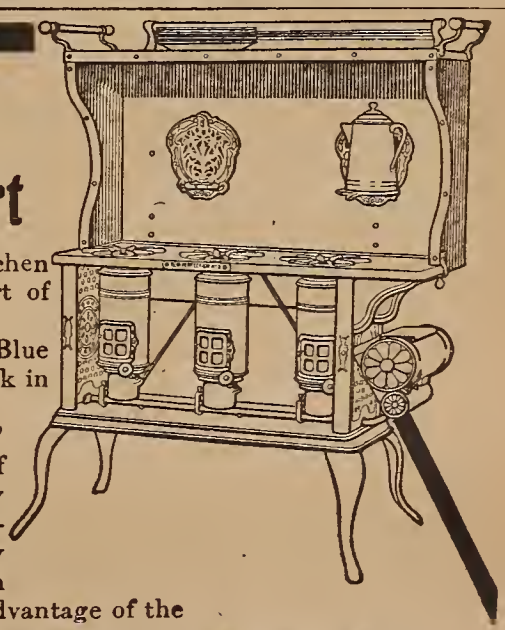
SECOND HAND BICYCLES—a limited number taken in trade by our Chicago retail stores will be closed out at once, at **$3 to $8 each.** Descriptive bargain list mailed free.

TIRES, COASTER BRAKES, single wheels, inner tubes, lamps, cyclometers, parts, repairs and everything in the bicycle line at **half the usual prices.**

DO NOT WAIT but write today for our *Large Catalog* beautifully illustrated and containing a great fund of interesting matter and useful information. It only costs a postal to get everything. **Write it now.**

MEAD CYCLE COMPANY, Dept. M-83 CHICAGO, ILL.

Plan for Summer Comfort



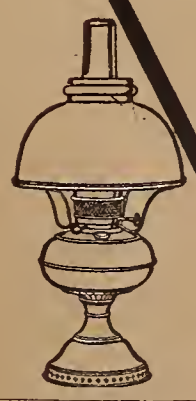
Don't add the heat of a kitchen fire to the sufficient discomfort of hot weather.

Use a New Perfection Wick Blue Flame Oil Cook-Stove and cook in comfort.

With a "New Perfection" Oil Stove the preparation of daily meals, or the big weekly "baking," is done without raising the temperature perceptibly above that of any other room in the house. Another great advantage of the

NEW PERFECTION Wick Blue Flame Oil Cook-Stove

is its handsome CABINET TOP, which gives it every convenience of the modern steel range. Has an ample top shelf for warming plates and keeping cooked food hot, drop shelves for holding small cooking utensils, and is even fitted with racks for towels. Made in three sizes, and can be had with or without Cabinet Top. If not at your dealer's address our nearest agency.



The Rayo Lamp gives perfect combustion whether high or low—is therefore free from disagreeable odor and cannot smoke. Safe, convenient, ornamental—the ideal light. If not at your dealer's address our nearest agency.

STANDARD OIL COMPANY
(Incorporated)

It is to your advantage to mention Farm and Fireside in writing to advertisers. Farm and Fireside folks get the very best attention.

Madison Square Patterns

HERE are some of the reasons why women who make their own clothes should use Madison Square Patterns:

To begin at the very beginning, every woman likes to have her own clothes a bit distinctive, and that is just what every dress is that is made from a Madison Square Pattern.

The Designs Are Exclusive

The patterns, for instance, cannot be purchased at a little store in every small town in the country. You can obtain them only by ordering direct from FARM AND FIRESIDE, 11 East 24th Street, New York City. This makes the designs far more exclusive than those sold by other pattern houses. Even if you are only looking for a pattern of a house-dress or a new work-apron, it is a satisfaction to know that the patterns of these simple garments are different from those your neighbor buys at the shop and that they have a distinctive style all their own. Then, too, when you are planning a special gown for some important occasion, you know that in the Madison Square Pattern Catalogue you will find just the very-thing you have been wanting—a gown which is a copy of some French model, but modified to suit your own needs.

Each Pattern Label a Lesson on Making the Garment

One particularly good feature of the Madison Square Patterns is the way in which the labels are written. Many women sew neatly and well, but have no definite idea of just how to put a garment together. Now each one of the Madison Square Patterns is written like a little dressmaking lesson on the garment to be made up. The directions tell just where to start the work and give each step in the making of the garment. For instance, you are not instructed on the making and adjusting of the sleeve until it is time to do this part of the work. Neither are you told how to put on revers or fancy trimming until the waist has been made and is ready for the trimming. In fact, the woman who sews, but does not know anything about dressmaking, need have no misgivings about buying Madison Square Patterns, for they are very simple to use.

Pattern Pieces Are All Lettered

Even the professional dressmaker will occasionally confuse the different pieces of a pattern, mistaking one part for another, so it is not at all surprising that the amateur should have the same difficulty. Unless you are accustomed to making dresses and know just how the different parts of a garment look when they lie flat, it is easy to confuse them. The pieces do not look the same when they are all together and joined in a gown as they do spread out flat on a table. For this reason alone, the Madison Square Patterns should be chosen as the best for the amateur. Each piece of these patterns is marked with a letter which is perforated through it, and referred to in the label by that letter.

Method of Perforating and Notching Most Perfect

When each pattern is made up our aim is to have it notched and perforated in the simplest manner, and we make a study of these two points. When pieces of the Madison Square Patterns are "to be joined as notched," you can join them in that way. The notches come exactly opposite each other and the pieces fit together most accurately.

Then, too, we have a simple method of perforation. We think that the stars, oblongs, diamonds, ovals and crescents as perforations, used by other pattern-makers, are apt to confuse a beginner. So we use only squares, crosses, round perforations and triangles, all simple in construction and shape—perforations that you could not confuse and know by name.

Our Pattern is a Ten-Cent One

Madison Square Patterns appear in every issue of FARM AND FIRESIDE. We sell these patterns for ten cents each, and many of them are so adaptable that they can be easily used for more than one garment. We make a specialty of shirt-waist patterns which can be used for making two entirely different-looking shirt-waists. You pay ten cents for the one pattern and you can use it in making two garments. It is the same way with many of our other patterns, so that it is really economy to use Madison Square Patterns. Send ten cents for any pattern described in this issue or any other issue of this paper. Address

Pattern Department

Farm and Fireside

11 East 24th Street, New York

The Tunnel Route to Manhattan

A Dream That Was Realized

By Richard Maxwell Winans

ONCE upon a time, yet of the days within recall, there lived in the great, teeming City by the Sea an old man, a dreamy old dreamer of dreams. And the wonderful dreams he dreamed were of a thing that has since materialized into a great existing, substantial fact, even as he dreamed it would; for lo! we are living in a day and age when dreams come true.

Dear Old Dreamers of Our Childhood

And those dear old dreamers of our childhood! Gone, most of them now, to that Great Dreamland, whence death led the way, to the eternal elysium of dreams. But we remember how we stood beside their knee near the old arm-chair by firelight and evening glow, intently listening, fascinated, to the picturesque telling of their dreams — and some that were not. But of all the marvelous, the fanciful, the stupendous and inconceivable things they told us of, they never set our heads awhirl with stories of the then unborn and wondrous things we now have visual knowledge of.

These things were then dreams beyond dreams. For, although they may have "looked into the future, as far as human eye could see" or mind could dream, still they had not yet even dreamed they saw "the vision of the world, and all the wonders that would be." Such things were then as impossible as the "Tales of the Thousand and One Nights."

But the minds of the genius, the inventor and the promoter have outdreamed the dreamer. Like Colonel Mulberry Sellers, of beloved story, they saw the "millions in it," and minds have conceived and hands have wrought and mills have produced, and we of to-day are privileged to enjoy the realization of dreams then undreamed.

"There's millions in it," said this second Colonel Mulberry Sellers, this old dreamer of the City by the Sea. "I see it all in my dreams. I see the great multitudes of the city winding down through great openings in the street to trains that take them beyond the rivers in all directions into the country. They go under the rivers, they go West and East and South, and they are all so bright and cheerful, and all so happy. They go from the crowded, stuffy offices out into the open country to sleep, where there is pure air to breathe, and velvety grass and vines over the doors of their homes, and there are flowers and an atmosphere of real living, pulsing life, an existence worth while living, and they are glad. Yes, there are millions and millions in it."

And old "Crazy Luke's" dream has come true. There have been millions put into the tunnels, and millions will be taken out. There are millions in it; millions of happier lives, as well as real dollars.

Twenty-five years ago "Crazy Luke" was the bane of the city's financiers, for he continually bothered them for help to further his dreams, the tunneling of the rivers, the Hudson and the East River, for passenger traffic to New Jersey and to Long Island. He became such a nuisance, his dreams were such impractical, impossible things, that by and by he was ruthlessly trundled away to an insane asylum.

There he would cease from troubling, he could dream out his dreams alone, and they could go on unmolested by him about their business of making money out of sane ventures. The fanciful visions of people being whirled in trains through tunnels under the streets and the rivers to homes in the quiet country passed out of the ken of men and were laid to rest with the old man in an unmarked pauper's grave.

A Man Who Makes Dreams Come True

But the delicate filament of the dream still haunted the thought-world with which the old man's mind had once held communion. It would not down. The dream was born again. This time in the mind of a man who had youth and courage, an indefatigable energy, an indomitable will, a tenacity of purpose and a stick-to-it-iveness that yielded to nothing short of full success. And the consummation of young William McAdoo's dream is the greatest system of under-river tunnels in the world. They laughed at him, too; but they found in his make-up the nature of a man who just simply makes dreams come true.

Through these tunnels you may now go down into the cavernous underground station beneath the Hudson Terminal Building on Cortlandt Street and there take a train for any point in North America—except Staten Island, down the bay. You've still got to use the ferry to go there—or get your feet wet. But one day they are going to tunnel there under the Narrows from Long Island, and then you may make the trip by rail, dry-shod.

There are now completed, or rapidly nearing completion, nearly twenty miles of great rock-ribbed, steel-banded, concrete-lined tunnels in this system, under the Hudson River, across the Island of Manhattan and under the East River, and more are planned. The carrying capacity of the present tunnels to and from Manhattan will be nearly a million people a day—more than the combined population of Boston and Cleveland and equal to the total inhabitants of Cincinnati, Washington, Minneapolis and Kansas City. Recent statistics show that the present passenger traffic on the ferries between Manhattan and the cross-river suburbs exceeds six hundred thousand persons a day—a greater number than the population of St. Louis, and nearly the combined population of Indianapolis, St. Paul, Denver, Des Moines and Columbus.

The Magic Way New York City Grows

New York is increasing in population at the rate of nearly one hundred thousand a year. The unqualified success of the present undertaking will serve to encourage and justify a more extensive tunnel system to provide for the needs of the future.

If the entire system now in operation and under construction were worked to its capacity during the full hours of the "traveling" day, it would be able to handle something like three hundred million passengers in a year. This would be nearly fifty million more people than the total population of both North and South America and Africa.

In referring to the number of people who daily pass to and from Manhattan it should not be forgotten that a great army of nearly one hundred thousand passengers go every working day through the Grand Central Station from and to their homes in Westchester County, Connecticut, and beyond.

The great twin tunnels that run under the river from lower New York to Brooklyn furnish a dry-shod highway for over one hundred thousand passengers a day. But, notwithstanding the enormous capacity of this tunnel, there is little, if any, abatement of the terrific home-going crush at the entrance to the Brooklyn Bridge.

The facilities offered by this subway New York-to-Brooklyn tunnel but serves to emphasize the increasing requirements for transportation to and from Brooklyn and the rapidly growing and easily reached suburban colonies on Long Island. Investors, and people having in mind a suburban home of their own, anticipated the opening of the tunnel, with its direct connection to all parts of the island, and they were foresighted enough to prepare for a home there in advance of the rush that was bound to come, and that did follow the opening of the tubes.

Still others, having a preference for the Jersey variety of mosquitoes, rather than endure the jabs and stings of the marshy Long Island breed, journeyed out in train-loads over hill and dale, selecting and buying homes and home sites in New Jersey. So when the McAdoo tunnel was opened across to Hoboken, connecting with the Erie, the Lackawanna, and other roads, it little more than accommodated the extra traffic added by these new commuters—freedom-loving people who had grasped eagerly at their opportunity to leave the ill-ventilated collection of cubby-holes, in which they lived and paid rent as apartment suites and flats, and moved out to homes on the land; homes with the pure air of the country circulating through them, an atmosphere unstifled by noisome odors, unladen with contaminating germs; a wholesome ozone good to breathe and live in.

Now Tunnels Make Suburban Homes Possible

They had long wanted, and found at last, a home with a spot of ground whereon they might raise vegetables of all kinds, that might be served fresh and crisp with the sparkling dew yet cool among their leaves; a place where they might raise their own poultry and eggs, to be freely eaten and with a personal knowledge that they had not been hidden a year or more from the world in the confines of storage.

A place near to Nature, where they could get plenty of God's sunlight, tripping light-hearted through sweet-scented, knee-deep clover-fields, listening to the chirping and twittering of uncaged birds, their minds attuned to the universal harmony of life.

And the people who have broken the bondage of the tenement lord in the crowded city, and have gone to live in their no-matter-how-modest homes in the country, have found that it is good to be there; that there is yet another picture on the reverse side of the canvas that portrays life with a brighter setting, more sunshine, more high lights, a clearer atmosphere, broader paths, with less of thorns along the way, and more of flowers and buds and foliage of pleasing colorings, and in the unclouded middle distance a beckoning promise of a life that leads to happiness and content.

But these thousands of emigrants from a metropolitan to bucolic homes have only just blazed the trail—a trail that will eventually widen into a highway that will be filled with hundreds of thousands of others of the city's people, oppressed by high rents and cost of living, harassed by the tumult of clangorous noise, sickened by the germ-fouled air, depressed by cheerless environments and nauseated by a great city's more or less immoral atmosphere; seeking, and finding, homes in the open country, where the surroundings will promote comfort and pleasure and make life really worth living.

A public man who ought to be in a position to know told me that nearly three hundred thousand people had left New York City for the suburbs during the last year. And the exodus has only just begun. Manhattan, the pulsing heart of Greater New York, has reached the high-water mark of population. The tide is beginning to ebb, and with the ebb will go other hundreds of thousands of city-tired people, newly awakened to and provided for the possibilities of a home in the country. Lower Manhattan, where was builded the colony that formed the nucleus of old New York, is now depopulated; sky-scrapers, shops and warehouses have replaced residences, and even living-rooms. How long will it be before the south gates of Central Park will look down at night upon a five-mile-long deserted city, with its high-walled streets abandoned to solitude, and a lone policeman? Not so long as you and I may think, I'll wager. And the tunnels have furnished the channel for the ebb and flow of this human tide. And if the current grows so heavy that it chokes them, why, they will build more tunnels, and still more, and Manhattan Island will one day become a great daytime work-shop, into which the workers will come and go through the tunnels under the rivers, and below Harlem, at least, it will be inhabited at night only by the office watchman and the police.

The Great Pennsylvania Tunnel System

Of all the network of tunnels that run up and down Manhattan and under the rivers, the greatest is the Pennsylvania system. This begins well out from the Jersey shore, running under the Hudson River, across Manhattan at Thirty-third Street, under the East River and Long Island City out to the grand terminal at the Sunnyside yards, which marks the Eastern terminus of the road.

For five years the drilling and cutting and blasting has gone on, hundreds of men have been killed and thousands injured, and in the open cutting through New York streets hundreds of houses have been torn down, to finally give place to towering steel structures that will rise over the block-wide gap in the solid rock; and yet the work is not finished, and will not be until 1910. But the methods of construction and the material used are such as to insure them under normal conditions to remain for all time, a one-hundred-million-dollar monument to the greatest feat of engineering in the history of transportation.

A five-million-dollar contract has just been awarded for the electrification of the Pennsylvania terminal, and when they begin actual operation in 1910 they promise a service of one thousand trains a day—six hundred to Long Island and four hundred to New Jersey—a maximum capacity of one hundred and forty-four trains an hour through the tunnels, from which direct rail connection may be made for any point on the Western Hemisphere (barring Staten Island).

Later on will come the proposed one-hundred-million-dollar freight tunnels up and down the shores and across town under the business streets of Manhattan, to handle the freight in cars underground and into the basements of the buildings, to eliminate the carting of freight in trucks on the crowded streets. Then freight from anywhere, as well as passengers, may be delivered direct at destination by the underground route, instead of being handicapped by the delay and inconvenience of the ferries.

Sunday Reading

Cheer Up!

"Oh, give us the man who sings at his work," wrote that great human philosopher, Thomas Carlyle.

He might have added, too, that the man who sings at his work generally accomplishes more in the end than the man who goes afield with a frown, a grouch or the shadow of a doomsday gloom spread over his face, for the old Roman poet spoke from experience when he said that "burdens become light when cheerfully borne."

Not long ago the rector of St. Mark's preached a sermon of "Cheer up!" gospel to his flock. If there were less of the dismal wail-of-a-lost-soul tone and more of the "cheer up" doctrine preached in the sermons from the American pulpits to-day the atmosphere of Christianity would be wonderfully brightened; it would be made more attractive to all people and would accomplish infinitely more good.

Too many people associate the Christian religion with a depressing solemnity, a painful tone of voice, a mourning style of garb, a long face and a funereal air generally, that gives one the feeling of being wrapped up in a heavy and torturing mantle of sackcloth and ashes, wandering dolefully through the somber gloom of a fearsome night of fate, listening to the moaning and the soughing of reproachful voices that chide us for our sins, and that make us very sad and very miserable.

But cheer up! That is not the kind of religion that Jesus Christ taught and preached and lived. It is only an unfortunate misconception that some people have of Christianity and the cheerless misinterpretation they persist in foisting upon a not enthusiastically receptive world as the genuine article. "Be ye of good cheer," was Christ's advice, and if you want to get the very most out of life you will find it well to follow it.

Watson once said, "Cheerfulness is a friend to grace; it puts the heart in tune to praise God, and so honors religion by proclaiming to the world that we serve a good master. Be serious, yet cheerful!"

Be cheerful! That good old Scotchman, author and optimist, George MacDonald, once wrote a friend, "If I can put one touch of a rosy sunset into the life of any man or woman, I shall feel that I have worked with God." Be cheerful always. There is no path but will be easier traveled, no load but will be lighter, no shadow on heart and brain but will lift sooner for a person of cheerfulness.

Cheer up! If you are unfortunate in your physical environments you will find that cheerfulness will do much to make for their betterment. If you have been sitting in the shadows drinking the dank gloom of life, then it is time you bestirred yourself. Get over on the sunny side of the fence! Let your soul absorb an ocean of God's sunshine. It will give you a different view of life, and incidentally give others a different view of you.

There is no greater every-day virtue than cheerfulness. This quality in man among men is like sunshine to the day, or gentle renewing moisture to parched herbs. The light of a cheerful face diffuses itself, and communicates the happy spirit that inspires it. The sourest temper must sweeten in the atmosphere of continuous cheerfulness.

Cheer up! Always look out for the sunlight the Lord sends into your days. Every one must have felt that a cheerful friend is like a sunny day, which sheds its brightness on all around; and most of us can, as we choose, make of this world either a palace or a prison.

You have learned by experience that you find yourself refreshed by the presence of cheerful people. The great trouble with the world to-day is that it has not half enough sunshine and cheery faces. If people could all be made happy there would not be one hundredth part of one per cent of the quarreling there now is, nor a tenth part of the wickedness.

Cheer up! Life is a very bright proposition when you look at it from the right angle. Get on the sunny side of the road, and then cheer up others into a life of greater cheerfulness. It will add to your life a happiness you have never known before. R. M. W.

When the day returns, return to us, our sin and comforter, and call us up with morning faces and with morning hearts, eager to labor, eager to be happy, if happiness shall be our portion, and if the day be marked for sorrow, strong to endure it.—R. L. Stevenson.

A Prayer

Shall we dwell on our sorrows when we remember that Thou didst not spare Thine own Son, but deliveredst Him up for us all? How can we but believe that Thou wilt do what is best for us? Thou wilt not withhold the best even if it hurt us to receive it. If we have borne adversity well, Thou wilt let us have the clear sunlight, if that be best for us; but Thou wilt not refuse to us the shadow, if we have been long in the sun, and now need the shadow. If we are of high degree, we shall rejoice in that we are exalted; if we are low, we will try to rejoice that we are cast down. We thank Thee that we have seen the light. If we see only the daybreak and no more, we are glad—it is so beautiful! But if it go on to the perfect day, how can we speak of its glory? And the fullest life here is only the daybreak, the beginning of that perfect day Thou wilt yet reveal to us. Thou dost not expect perfection from us, Thou dost not look for the workman's finished powers, but only for a faithful apprenticeship—and that we have tried to give Thee. Amen. —Maltbie Davenport Babcock.

Human Sensitive-Plants

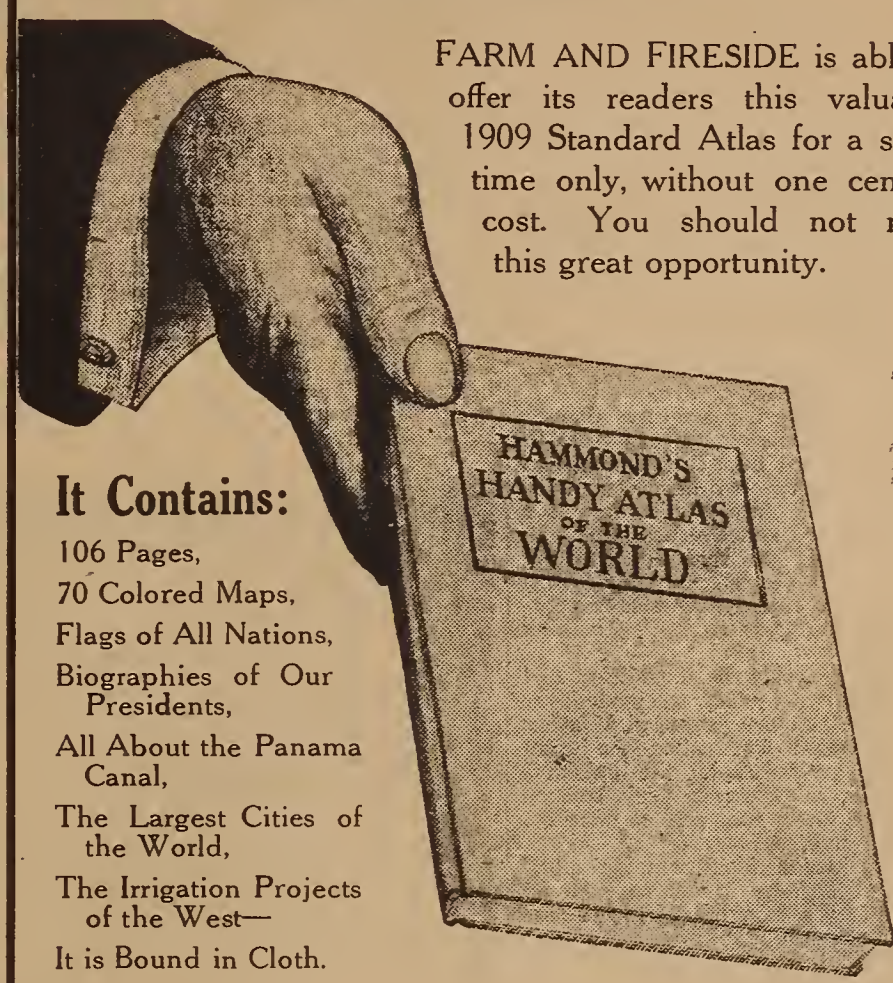
If there is any neighborhood not provided with "touchy" people, the fortunate inhabitants should rejoice, for the bane of country social life is the woman and sometimes the man who must be handled with gloves, so to speak, or there is trouble. Twenty or thirty years ago every collection of house-plants in our section was thought incomplete without a pot of those curious fern-like plants that folded up and drooped when touched. Children delighted to "tease" these sensitive-plants, and even grown people were amused and interested to see the way in which they would wilt when touched, but in real life the human sensitive-plants are neither amusing nor interesting.

In one neighborhood a middle-aged lady "kept tab" on her neighbors, as the small boys expressed it, and woe to the woman who called on a friend one time more than on the touchy lady. There was a regular scene and pouting and coolness and reproaches, until the bold caller regretted her boldness and ever thereafter kept her accounts straight. It is all very well to say such people should be ignored, but outside of towns neighbors are neighbors and must be treated with courtesy. Women who live in the country would never think of being rude or unkind to the people a few rods down the road whom they must meet at socials, at church and on the road, no matter how touchy they are, so they make the best of it with what grace they may.

Among the touchy men perhaps the worst is the one who sees evil or harm in the actions of every one about him, and promptly asserts his right. If a man lingers near his apple orchard, he is promptly told to move on, and the small boys of the neighborhood delight to torment him by pretending to injure his property. Sometimes the touchy man refuses to join fences with the farmer whose land adjoins his, and sometimes he regards every accident as a trick with malicious intent. Whatever may be his peculiar form of disease, for disease it surely is, along this line, the neighbors indulgently put up with it and earnestly wish he would move to some desert island. It almost always happens that the touchy man has a lovely wife and nice family, and the touchy woman has a patient and long-suffering husband, so for the sake of these members of the family the "sensitive-plants" are tolerated with as good grace as possible.

But if any one happens to read these lines who belongs to the sensitive-plant tribe, by all means reform before it is too late. No matter if your family and the neighbors do endure your whims, brace up and be sensible. Some one has said we are "only children just grown tall," but it doesn't follow that we must cultivate the vices of childhood instead of the virtues. If you are always looking for trouble, you will find nothing else, and this beautiful world will be a sad place for you. If you enjoy gloom and love to pout, at least have mercy on your friends, and reform. There is nothing more tiresome on earth than the individual with a grievance, and if you care nothing for friends now, remember that the time will come when you will want them. Don't drive them from you and drift into sour old age, friendless and forlorn, but get over your tendency to droop and pout whenever anything touches your very tender feelings. Hilda Richmond.

You Can Get This Atlas Without Cost



FARM AND FIRESIDE is able to offer its readers this valuable 1909 Standard Atlas for a short time only, without one cent of cost. You should not miss this great opportunity.

It Contains:

106 Pages,
70 Colored Maps,
Flags of All Nations,
Biographies of Our Presidents,
All About the Panama Canal,
The Largest Cities of the World,
The Irrigation Projects of the West—
It is Bound in Cloth.

For a Short Time Only

At last Farm and Fireside has been able to obtain a splendid, comprehensive Atlas of the World, which it now offers to its readers for a limited time, absolutely without cost.

Every home should own a good, reliable, up-to-date Atlas. Almost every day we hear or read about some city or country, the exact location of which we want to know. A good Atlas contains more definite, necessary information than any other book of its size in the world. But an Atlas usually is expensive. The preparing of the dozens of maps, the collecting of countless facts about countries and people, the making sure that every statement is absolutely accurate, costs many thousands of dollars.

What You Will Get

By our special arrangements you can obtain the famous Hammond's Handy Atlas of the World without one cent of cost, if you act at once. We have secured for our readers the latest 1909 edition of this great Atlas, which is just off the press, revised up to date. This volume contains 106 pages, 6 by 8 inches in size, and is bound in substantial and attractive red cloth. There are seventy full pages of maps, containing new maps of each state and territory in the United States, and every country in the world. Special maps show the important ship routes, the distances between ports, also the latitude and longitude of every place in the world. The flags of all nations are shown in their real colors, and a gorgeous display they make.

In addition to all the maps showing the location of countries, towns, rivers and mountains, this valuable Atlas and handbook contains a brief accurate biography and the portrait of every president of the United States, including William Howard Taft, who was inaugurated on March 4th. There is a list of all the most important cities of the world, with the population of each, including every city in the United States with a population of 10,000 or more. The book contains a full-page map of the Panama Canal, with a profile map showing just how the canal will be built, together with full description of the canal. An interesting section of the Atlas is a description of each of the great land-reclamation projects of the country. Nearly fifty of these great irrigation undertakings are described. They mean the making fertile of a million and more acres of land in the Western states. A large map shows where each of these irrigation sections is located.

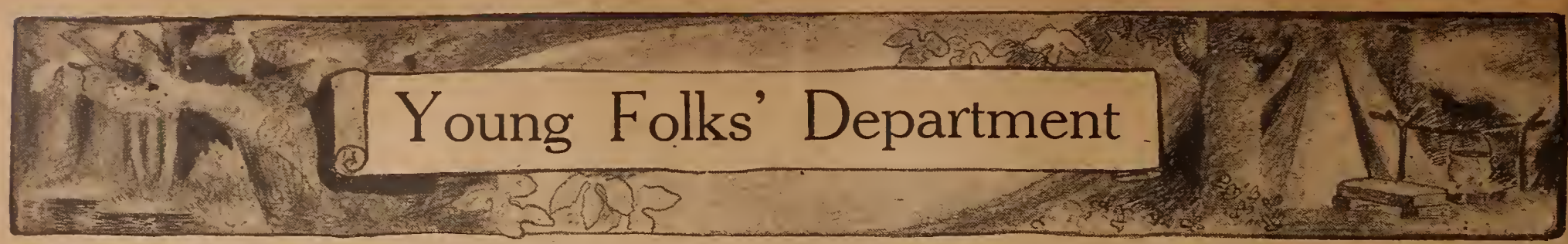
You need the Atlas. It is the latest Atlas published. It contains barrels of valuable and interesting information. You can get it absolutely without cost—if you act at once.

How to Get It

Send us two subscriptions to Farm and Fireside, and we will send you the Handy Atlas, free of charge, with postage prepaid by Farm and Fireside. The subscriptions may be either new or renewal. One of the subscriptions may be your own. Either subscription may be a one-year subscription at 35 cents or a two-year subscription at 50 cents.

Farm and Fireside, Springfield, Ohio

This Offer Will Be Withdrawn. Act at Once



Harry Goes Camping With Old Ben

By Clarence Hawkes

WHEN old Ben told me that we would go away into the great woods for a week's camping out, and that we would start within a day or two, my joy knew no bounds.

I rolled upon the ground and shouted, stood upon my head and turned handsprings.

This had long been a dream of delight which I had thought almost too good to ever come true, but here it was about to be realized. The next two days were busy ones for us both. We had to lay in a store of provisions and overhaul the tent, which was an old one that Ben had not used for several years.

I whittled an entire new lot of tent-pegs and felt quite like an Indian making a wigwam.

The third day after the expedition had first been proposed by Ben we loaded our outfit into the express-wagon, and father drove us to what was called the great woods. We arrived upon the outskirts of this howling wilderness, as it seemed to me, in the afternoon, and at once set to work on our camp.

"This isn't just an ideal camping spot," he said, "but I guess it will have to do for to-night. We haven't got much time to look about. We will just camp here to-night, and to-morrow we can look around a bit. I'll put up the tent, and you can go and look for a spring. I usually find the spring first, and then pitch the camp near it, but I haven't time to look for one to-night, so we will trust to luck. See the tops of those black ashes yonder? You look over there. It is upon low ground, and black ashes always grow in a moist spot, so I presume you will find either a small brook or a spring somewhere near."

It was only a few rods away, almost within sight of our prospective camp. The black ashes proved to be on moist land, as Ben had predicted, but there was no well-defined waterway, although the ground was soft and swampy.

I circled about, quartering like a fox-hound, as Ben had taught me to do when looking for something in the woods, but no spring could I find. I was very loath to give up and be beaten in this my first attempt in helping, but finally was obliged to turn back without having discovered water.

I had gone but a few rods from camp, or so it seemed to me, and was quite sure of the direction back to my starting-point.

I hastened, for it was getting toward twilight, and long black shadows were already creeping through the woods.

To my great astonishment, I found that camp did not lie just beyond some spruces, as I had thought, so I turned back to my starting-point and tried another direction, but that seemed to lead me still deeper into the woods.

This would never do, I must be more cheerful, so I went back to a clump of birches that I had just left, to try it over again, but to my dismay it was not the same birches, but a new locality.

"I lifted up my voice and yelled like a savage"

How long and black the shadows were getting. How still it was. I must hurry. So I started on a run in a new direction, which I felt sure would bring me to camp.

As soon as I began to run, my alarm, which had not been great up to that point, increased tenfold, and I ran hither and thither, like a deer, taking almost no note of landmarks, as Ben had taught me to do, but trying to cover as many rods as possible in the shortest time. I scratched my hands and face in the underbrush, and twice went head over heels upon the ground, but that was nothing. In about thirty seconds I was back again at the clump of birches, so I tried another direction, but came right back to the same place.

It was terrible! Did all the paths in the woods lead right back to this spot? Then it dawned upon me that I was running about in a circle.

I had read of such cases in books—of how men became lost in the woods, and ran around and around in a circle until they dropped of fatigue. Suddenly the sweet green woods with its lengthening shadows seemed to stretch out in every direction for a million miles. I was the only living creature in all that vast solitude, unless it was filled with bears, wolves, ghosts and hobgoblins. Such a wild terror as I have never known before or since seized me. My hair stood up, my teeth chattered, my heart thumped away at my ribs, as though it would jump through between them. I seemed as small as a sand-flea in the middle of the desert of Sahara. Never, never as long as the world stood, would I be able to get out of this hateful woods.

At last the silence and the terror of it grew so upon me that I lifted up my voice and yelled like a savage. I did not give one shout, and then listen to see if it was answered, but bellowed at the top of my lungs, drawing my breath with great sobs between the deafening passages of my distress.

"Hello, that you, Harry?" cried a cheerful voice near me. I rushed toward the spot from whence came the voice.

Ben was drawing down the corners of his mouth and trying hard not to laugh. "Have you treed a panther, Harry," he asked, "or was it a pack of Apachees that I just heard?"

"You needn't laugh at me," I blubbered. "I have been lost. How did you find me so quick?"

"I find you, I find you, boy! Why, I haven't been looking for you. I guess you found yourself."

"Well, how come you away off here when I left you making camp miles away from here?" I asked, feeling sure that I had him where he would have to give in.

Ben very considerately stifled a laugh, and sneezed instead, then motioned to me to come to him.

"What do you call that?" he asked, pointing to the tent, which was already up, although it had been screened from me by some trees.

"That's the tent," I replied, feeling that I was being made a fool of, "but you have moved it. This isn't the place where we were going to pitch it."

"The very same," replied Ben. "You've lost your compass, Harry. You have been clear around camp and come out on the opposite side from which you left, so everything looks different. When you are in the woods you must notice peculiarities in the trees, and that will keep you from getting lost. An old stump, a spreading spruce, an ironwood-tree, which is not common, a hillock or a rock, all these things are guide-boards in the woods that tell you the way back to camp."

Soon Ben had a bright fire going between three stones that he had arranged forming three sides of a square.

"It is always a good plan to place stones in that way, Harry," he said, "so your fire won't keep tumbling down as fast as it burns. If we were real savages, instead of make-believes, starting the fire would be quite a process, and it might take half an hour. We would have to use a flint and some tinder, and it would be quite a trick."

I opened a can of salmon, Ben fried some potatoes and made some coffee, and our supper was ready.

When we had finished, Ben cut two small hemlocks, and dragged them near the tent, and we set to work to strip them of small branches and needles.

"There isn't anything in the world that makes as soft and sweet a bed as hemlock needles," explained Ben. "The odor is a sort of sleeping-potion, too. It always does me good to sleep on either hemlock or pine needles."

When we had gotten a large pile of the sweet, springy hemlock plumes, we carried them into the tent, and Ben showed me, how to cover the pile with the blanket, and then tuck the edges under so that when we laid upon it, our bed would not flatten out as much as it would otherwise do. Our second blanket we put on top of the first one, and Ben called it "the spread."

The bed now being ready, we went outside and piled a lot of wood upon the camp-fire and sat down by it, to enjoy a real camp-fire talk.

"Of course we don't need the fire to-night to keep warm by," said Ben, "but it looks so cheerful that I love to watch it burn and see the pictures come and go. Besides, it helps keep off the mosquitoes. A bright fire is good to cook with, but a smudge keeps off mosquitoes. To make a smudge, put on some punk, or if you cannot find that, a hunch of green grass."

I pulled a handful of grass, and was astonished to see how quickly a dark wreath of smoke was curling up through the tree-tops.

"The Indians always used fires for signals," explained Ben, "and they could communicate by means of them several miles away. This was their telegraph."

Special Prize Contest

EVERY boy and girl under twelve years of age guessing the following puzzles will receive a charming picture.

A SQUARE

* * * *
* * * *
* * * *
* * * *

First Row—A part of the body. Second Row—Any particular extent of surface. Third Row—Not distant. Fourth Row—To challenge or defy.

A DIAMOND

*
* * *
* * * * *
* * *
*

A consonant. Angry. An imaginary being or spirit. Not wet. A consonant.

To the boy and girl between the ages of twelve and seventeen sending us the best copy of the picture illustrated above, we will send a Brownie Camera No. 1. Those deserving honorable mention will receive a supplementary prize. The drawings must be larger than the original. Do not roll them, but send them flat. The contest closes May 20th. Address Cousin Sally, care of FARM AND FIRESIDE, 11 East 24th Street, New York City.

Cousin Sally's Letter

DEAR BOYS AND GIRLS:—

Do you remember, it was just this time last year that Cousin Sally wrote her first letter to you. And even though it has been but one short year, it seems as if I had known you ever and ever so much longer.

The other day I read over some of your first letters, a great many of which were dated "May 12, 1908," and I couldn't help but smile, they were so dignified and businesslike. One little girl addressed me in this manner: "Dear Madam," and signed her letter "Yours truly." But now it is different. We understand each other, don't we, and all that strange feeling has vanished. Why, I feel as though I were a really, truly cousin to each and every one of you.

Our first year has been a very happy one for me. Your enthusiastic letters—yes, and even those first formal letters—have inspired and helped me. So you see you deserve as much credit, if not more, than I, for the splendid success of our little corner. And it is a great success.

Now let us see if we cannot make our page this coming year just twice as good. I want our department to grow so large that some day I can go to the editor of FARM AND FIRESIDE and ask him for another whole page. So let us work with this aim in view. You have helped me during the past year, and now, since this is our first anniversary, let us resolve to pitch in and work and do all in our power to make our page the finest, the most interesting Children's Page of any farm magazine.

Cousin Sally wants every boy and girl who reads this page to take part in this month's contest. Since this is our first anniversary, I am offering some special and unusually attractive prizes. Do the very best work that you know how, and send it along.

I wish it were possible for me to write to every one of you who enters the contests, but even though you don't hear from me personally about your work, I want you to feel that Cousin Sally examines it very carefully before she puts it in the "Impossible" envelope. Every bit of your work has my most careful consideration.

I was hoping that we would have quite a little space for the letter-box, but my letter and the prize contest are so long that I will have to hold the letters over until next time. I wish that every one of my cousins would sit right down now and write to me. I never can receive too many letters. They always interest me and I am always glad to get them.

With a great deal of love, and assuring you all of my constant interest,

Ever faithfully,

COUSIN SALLY.

Miss Gould's Fashions

Designs From

Madison Square Patterns

No. 686—Child's Rompers
Pattern cut for 1, 2 and 4 year sizes.

THE fruit-trimmed hats are vying in popularity with the flower-laden ones this summer. Not only are clusters of cherries and bunches of grapes used in lavish profusion, but small oranges, apples and pears. The flowers, however, were never lovelier, and many of the new hats have their huge crowns massed with roses. Wreath effects are also good style, and a wreath of pansies was seen on one of the latest imported hats, which was in a becoming shade of pinkish violet straw. Wreaths of forget-me-nots and little pink button-roses combined make a charming, Frenchy trimming touch for a hat of black straw.

No. 1047—Tucked Shirt-Waist With Yoke
Pattern cut for 34, 36, 38 and 40 inch bust measures.

THE new wash materials for summer morning-dresses were never more attractive than they are this year. The linens repeat many of the designs in the wool fabrics and make up into the neatest and trimmest-looking little dresses. Those with a white ground showing a cross-bar stripe effect in either brown, gray-blue or that lovely soft shade of green known as reseda are among the smartest of the new patterns. Kindergarten cloth and galatea are both durable materials to select for a morning-dress, and they are printed in a variety of new, attractive designs and lovely colors. Silk-and-cotton Shantung, which has the look and luster of a silk Shantung, is another one of the new favorite wash fabrics. For trimming these gowns there are the white crochet buttons and many novelty cotton braids.

No. 1162—Tailored Shirt-Waist With Pocket
Pattern cut for 34, 36, 38 and 40 inch bust measures.

No. 1093—Seven-Gored Walking-Skirt With Pockets
Pattern cut for 24, 26, 28 and 30 inch waist measures.

TO BE really smartly dressed it is necessary not to neglect the little details of your costume. Something new in the way of a dress accessory to wear with sheer summer frocks is a Directoire girdle made in combination with a jumper and a sash. The girdle is made of luster ribbon. The jumper portion gives a surplice style to the bodice of the dress, while the girdle itself is so draped about the figure that it has a pointed effect in front, while another of its new features is that from this point two sash ends depend, which are finished with a bag, made also of the ribbon, which is either embroidered or covered with lace. The jumper portion of this girdle, which is really in the form of bretelles, gives a surplice effect. The draped girdle lengthens the waistline and the bag helps to give a smart, new touch to the costume.

No. 747—Housewife's Apron
Pattern cut for 32, 36 and 40 inch bust measures—small, medium and large.

No. 1299—Child's Russian Dress With Yoke
Pattern cut for 6 months, 1 and 2 year sizes. Quantity of material required for medium size, or 1 year, two and three fourths yards of twenty-seven-inch material, or one and seven eighths yards of thirty-six-inch material, with seven eighths of a yard of all-over embroidery.

No. 552—House Gown
Pattern cut for 32, 34, 36 and 38 inch bust measures.

MADISON SQUARE PATTERNS

For every design illustrated on this page we will furnish a pattern for ten cents. Send orders to the Pattern Department, FARM AND FIRESIDE, 11 East 24th Street, New York City. When ordering, be sure to comply with the following directions: For ladies' waist, give bust measure in inches; for skirt, give waist measure in inches; for misses or children, give age. Be sure to mention number of pattern.

Have you seen the new Style Book of Madison Square Patterns? If not, you will be wise if you send for it at once. Inclose four cents in stamps when ordering, and address your letter to the Pattern Department, FARM AND FIRESIDE, 11 East 24th Street, New York City.

Here is our latest liberal offer: We will give any two Madison Square Patterns for sending two yearly subscriptions to FARM AND FIRESIDE at the regular price of thirty-five cents each. Your own subscription may be one of the two. We will send FARM AND FIRESIDE one year, new or renewal, and any one pattern for only forty cents.

Copyright, 1909, by The Crowell Publishing Company

OLD SOAKERS

Get Saturated With Caffeine

When a person has used coffee for a number of years and gradually declined in health, it is time the coffee should be left off in order to see whether or not that has been the cause of the trouble.

A lady in Huntsville, Ala., says she used coffee for about 40 years, and for the past 20 years was troubled with stomach trouble.

"I have been treated by many physicians, but all in vain. Everything failed to perfect a cure. I was prostrated for some time, and came near dying. When I recovered sufficiently to partake of food and drink I tried coffee again and it soured on my stomach.

"I finally concluded coffee was the cause of my troubles and stopped using it. I tried tea and then milk in its place, but neither agreed with me, then I commenced using Postum. I had it properly made and it was very pleasing to the taste.

"I have now used it four months, and my health is so greatly improved that I can eat almost anything I want and can sleep well, whereas, before, I suffered for years with insomnia.

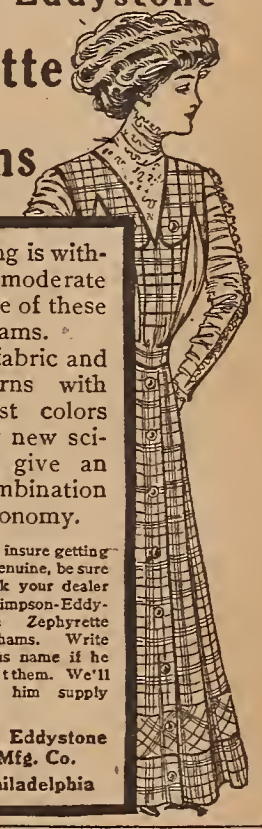
"I have found the cause of my troubles and a way to get rid of them. You can depend upon it I appreciate Postum."

"There's a Reason." Read "The Road to Wellville," in pkgs.

Ever read the above letter? A new one appears from time to time. They are genuine, true, and full of human interest.

Simpson-Eddystone

Zephyrette Ginghams



Stylish dressing is within easy range of moderate means by the use of these fine dress ginghams.

The durable fabric and beautiful patterns with the intense fast colors obtained by our new scientific process, give an exceptional combination of style and economy.

New Process Dress Ginghams
SIMPSON
TRADE MARK
REG. U.S. PAT. OFF.
EDDYSTONE
Zephyrettes

To insure getting the genuine, be sure to ask your dealer for Simpson-Eddystone Zephyrette ginghams. Write us his name if he hasn't them. We'll help him supply you.

The Eddystone Mfg. Co.
Philadelphia

WATERPROOFED LINEN
LITHOLIN
COLLARS AND CUFFS

Needed by the Farmer

If you wear LITHOLIN Waterproofed Linen Collars and Cuffs they keep their shape anywhere and don't fray. There's no laundering—you just wipe them clean, and they are like new. You save not less than $16 a year. Unlike Celluloid and Rubber, they look like ordinary linen, and are cut in every fashionable style, and in all sizes. Have clean linen all the time, at no cost.

Collars 25c. Cuffs 50c.

Always sold from Red Boxes. Avoid substitution

If not at your dealers, send, giving styles, size, number wanted, and we will mail, postpaid. Booklet of styles free on request.

THE FIBERLOID COMPANY
Dept. 14, 7 Waverly Place, N. Y.

We Supply the U. S. Government.

Prices Cut in Half this season. Our large new 104-page Band Instrument catalog Sent FREE. Write to-day.

THE RUDOLPH WURLITZER CO.
124 E. 4th St. Cincinnati; or, 345 Wabash Ave. Chicago, Ill.

AGENTS ARE COINING MONEY

Selling these new PATENTED POSITIVE TENSION SCISSORS. No other house sells them. Can't be bought in stores. V. C. Giebner sold 22 pairs first three hours, made $13.50. You can do it. Write today and let us prove it. We show how to make $3 to $10 daily. Experience unnecessary. OUTFIT FREE.

THOMAS MFG. CO., 1213 Barney Blk., Dayton, O.

AUNTIES

They Belong to the Whole Neighborhood

That dear old neighbor we knew as "Aunty" and who lived down the street was no relation, of course, except that her tender old heart made her "Aunty" to all the young people. And how she did love the young mothers!

One who remembers her says:

"We could always depend on 'Aunty' for good sound advice. She was particularly well informed on food and what to use for certain troubles.

"After having taught in the public schools for years my health became bad and I suffered frequently from indigestion. After my marriage I had indigestion so badly it became chronic.

"Owing to my condition my little baby did not get proper nourishment and was a very delicate child. I had about decided to put her on artificial food altogether when the advice of dear old 'Aunty' put baby and I on the right road.

"She insisted upon my trying Grape-Nuts food, declaring that it would help me and give baby more nourishment, so to please her I did, trying it for breakfast. The result was so marked and so quick that I ate it for luncheon too and I must say the change has been wonderful. I have good health now and baby is a strong, active child.

"My mother says that Grape-Nuts helps her more and keeps her more cheerful and happy than anything else she has ever done. Truly pure, scientific food has great power." "There's a Reason."

Read "The Road to Wellville," in pkgs.

Ever read the above letter? A new one appears from time to time. They are genuine, true, and full of human interest.

204 for $1.00

THAT is FARM AND FIRESIDE's great reduced-price newspaper and farm paper clubbing offer which you can take advantage of if you act at once. For only $1.00 we will send you

Farm and Fireside 2 Years (48 Issues)

The giant of the farm press, the one farm paper that you cannot afford to miss, no matter how many others you take.

Thrice-a-Week World 1 Year (156 Issues)

New York's greatest newspaper. Gives you the world's news fresh, up to date. It keeps you in close touch with all the world.

You can get these two magnificent journals mailed to your home, postage paid, for less than half a cent an issue. Can you beat that? If you wish, you can have Thrice-a-Week World sent to your own address and FARM AND FIRESIDE sent to the home of some friend.

Send $1.00 for both papers to-day to

FARM AND FIRESIDE
SPRINGFIELD, OHIO

POST CARDS
25 10c

Fine art cards beautifully colored. Flowers, Landscapes, Pretty Girls, Love Sets, Birthday and other choice cards. All different. No comics. The kind that sell for 3c to 5c each. Large illustrated catalog showing 2500 latest cards at lowest prices—FREE. HOMER GEORGE CO., Dept. 20 CHICAGO.

$4.90 FOR THIS BEAUTIFUL Marble Tombstone

Lettered exactly as illustrated. More than 500 other kinds, styles and sizes in granite and marble at $3.60 to $385.00. If you want the best in stonecraft at direct-from-the-quarry prices, write for our Tombstone Catalogue No. 476E.

SEARS, ROEBUCK & CO. Chicago

Don't Throw it Away

They mend all leaks in all utensils—tin, brass, copper, graniteware, hot water bags etc. No solder, cement or rivet. Any one can use them; fit any surface; two million in use. Send for sample pkg. 10c. Complete pkg. assorted sizes, 25c postpaid. Agents wanted. Collette Mfg. Co., Box 648 Amsterdam, N. Y.

$1.50 INSURES YOUR HOME

The Goodson Chemical Fire Extinguisher instantly puts out all kinds of fires including gasoline. It is always ready; cannot get out of order, so simple a child can operate it. Every home and barn should have one. 500 homes and barns destroyed by fire every day. Yours may be the next. Send us your order today. Price $1.50. Agents wanted.

Goodson Electric & Mfg Co., 4 Point St., Providence, R. I.

The Household

Good Spinach Dishes

SCIENTISTS claim that if we were to eat spinach every day in the year, as we do potatoes, physicians would find their practice decreasing every week. In the spring, when it is most easily obtained, it is a distinctly valuable food, benefiting the liver and stomach, purifying the blood and acting as the best of all tonics when iron is needed in the system. Some of the most pleasing ways of preparing it are here given.

FOR A DELICATE SPINACH PURÉE, wash the spinach carefully, drain it in a colander, and put it into a saucepan. Allow one half cupful of water to two cupfuls of spinach, and let it boil from twenty to thirty minutes; the spinach must be cooked until perfectly tender, but not long enough to make it a soft paste. When done, drain, and chop as fine as possible. To the liquor that was drained off add one quart of milk, let it come to a scald, and stir in two tablespoonfuls of flour rubbed to a paste with two tablespoonfuls of butter; let it cook, stirring all the time until it is smooth and slightly thickened, add the spinach, season with salt and white pepper, and serve very hot with croutons.

SPINACH CAKES or croquettes—Boil three eggs until hard, and mash the yolks to a smooth paste. Mix with them the yolk of a raw egg, one tablespoonful of soft butter, and salt and white pepper to taste. Drain one and one half cupfuls of cooked spinach very dry, chop it fine, and mix it with the egg-yolks. Let it cool, then form into small flat cakes or croquettes, egg and bread-crumb them, and fry to a delicate brown. Croquettes should be fried in deep fat in a basket, but the little cakes may be browned on both sides in a frying-pan.

SPINACH PUFF is the most delicate of all spinach dishes. Drain two cupfuls of the cooked spinach very dry, and chop it as fine as possible. Beat in one tablespoonful of melted butter, salt and pepper to taste, and a pinch of grated nutmeg. Let it cool thoroughly, then add one gill of cream, the yolks of two eggs well beaten, and the stiffly-whipped whites of three. Mix all thoroughly and quickly together, then turn into a deep, well-buttered pudding-dish, and bake for twenty minutes in a good oven. Serve as soon as done or it will fall.

SPINACH in little boxes of bread or baking-powder biscuits pleases both the eye and the palate. Chop the cooked spinach very fine after draining it, add one tablespoonful of lemon-juice or vinegar, two tablespoonfuls of melted butter, and salt and pepper to season. Cut half-inch slices of bread into diamonds, remove the centers, leaving walls about one fourth of an inch, brush them all over with soft butter, and brown lightly in a moderate oven. Fill the spinach into these, sprinkle a little of the grated yolk of a hard-boiled egg over the top, and serve at once. Use hot baking-powder biscuits in the same way. When the latter are used, it is preferable to mix the spinach with cream sauce. MARY FOSTER SNIDER.

Stuffed Cabbage

CHOOSE a firm, fresh cabbage. Boil in salted water for ten minutes. Mix together one cupful of boiled rice, the same quantity of chopped cold chicken and one half cupful of minced ham. Season to taste. Stand the cabbage on the stem end, and carefully open the leaves, beginning in the center. Fill the spaces between the leaves with the forcemeat. Close the cabbage upon itself, and tie up firmly in a piece of coarse netting. Place in a pot of boiling salted water, and cook for two hours. Take from the water, remove the netting, place on a platter, and serve with a sour sauce.

How to Use Camphor

STUBBORN dark stains on a mirror or clear glass may be removed with a flannel dipped in spirits of camphor. Rub until dry. If the first application is not successful, try it a second time, and the spot will disappear.

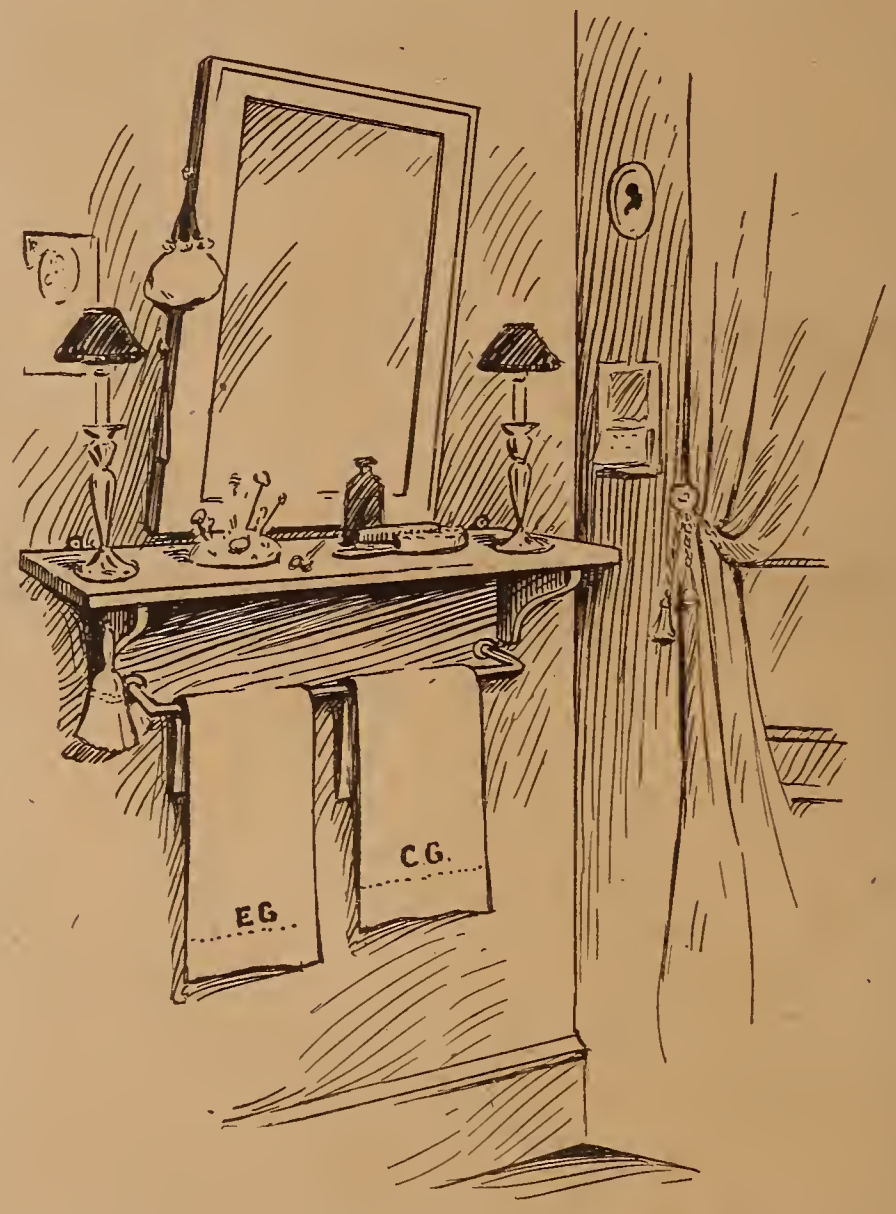
A bad cold in the head can often be cured by taking from eight to ten drops of camphor on a lump of sugar. Take three doses, from one to two hours apart. Do not use camphor in this way steadily, because it is apt to weaken the heart.

Keep a few pieces of lump camphor in the kitchen and burn it when there is a strong odor of scorched food.

Carry a small vial of liquid camphor in your pocket, and rub it on the lips at frequent intervals, to cure cold-sores. If used in time there will be no blisters.

Place a small piece of gum camphor in each box of flat silver after it has been cleaned, and the polish will remain brilliant twice as long.

To destroy objectionable odors in a sick-room, sprinkle a little spirits of camphor in the corners.



A Substitute for a Bureau

NOW is the time to plan for your summer boarders if you intend to take any. There are always so many things to be done about the house that it is well to start the work early, and it is the wise woman who does everything in her power to make her guests comfortable and happy. To do this doesn't mean that a lot of money should be expended—oh, dear no. It doesn't cost anything to take down the draperies, rip up the carpets and stain the floor, and to put down a rug, and to have a flower or two on the dining-room table.

But of course the main thing is their rooms. The bed should be comfortable, there should be a few hooks for clothes, and a dressing-table or bureau. But if the room is too small to hold one, then you can have a dressing-shelf like the one pictured above. Choose the brightest corner in the room, hang up your mirror, and underneath it have the man of the house tack up the shelf. The one here illustrated is undraped, but if you wish, a muslin slip may be made and tacked over the shelf with a drapery to fall to the floor. A second shelf underneath this one would make a convenient place for the basin and soap-dish, while the pitcher of water could stand on the floor. The shelves might then serve for both wash-stand and dressing-table. The towel-rack is a wooden rod, supported by large hooks screwed into the wall.

Some Kitchen Hints

WHEN a knife has been used in paring onions or preparing fish, the disagreeable odor may be removed by wiping the blade with a damp cloth and then rubbing it briskly with coarse salt.

DON'T take ham, beef or tongue, which is to be eaten cold, from the water in which it has been boiled until it is thoroughly cooled. This will make the meat more tender and greatly improve the flavor.

THE flavor of boiled ham will be much improved if the ham is soaked for a few hours before cooking in cold water to which enough vinegar has been added to make it very sour. Then put it over the fire in cold water, and when it boils, add a bunch of sweet herbs, two turnips, two heads of celery and three medium-sized onions. The vegetables should be cut in rather small pieces. Let the ham simmer gently until tender. When it has cooled, take it out of the water, strip off the skin, and cover with bread raspings.

TO MAKE tough meat tender, let it lie for ten or fifteen minutes in vinegar and water. Beef for stewing is always improved by the addition of a little vinegar to the water in which it is boiled—not enough to spoil the liquor for gravy, but just sufficient to make it nicely piquant.

WHEN you wish to save the yolk of an egg, make a small hole in the egg-shell, and let the white run out. When it is all out, place the shell containing the yolk in an egg-cup, and leave in a cool place. The yolk will keep fresh for several days in this way. This is worth remembering when one requires to use only the white of an egg.

WHEN you buy dates the next time, try this recipe for layer-cake filling. Boil to a "hair" one cupful of sugar and three tablespoonfuls of water. Then pour it over the stiffly-whipped whites of two eggs, continuing to beat the eggs while doing so. Beat together for a few minutes, flavor with vanilla, and mix in one cupful of well-washed dates that have been stoned and finely chopped.

WHEN you need ginger for flavoring, buy the root instead of the powdered ginger. Keep it in a self-sealer, and pound it with a mortar and pestle as you want it. This is more trouble, but the improved flavor will more than make up for it. A little pounded ginger-root added to preserved apples or pears, or in rice, tapioca and apple puddings, is delicious.

WHEN serving soup, it is much nicer to fry the bread to be passed with it. Use a stale square loaf, and cut off some slices about one fourth of an inch thick. Remove all the crust, and cut the bread into dice. To every fourth of a pound of bread allow one tablespoonful of good butter. Melt the butter in a frying-pan, add the bread, and let it fry at a moderate heat until lightly browned, keeping it constantly turned to make it of a uniform color. Drain the sippets from the butter, and dry them on unglazed paper in front of the fire. Serve at once.

Peanut Cookies

ONE cupful of butter, one and one half cupfuls of sugar, three eggs, one cupful of freshly-roasted peanuts pounded to a coarse powder, and mixed with three cupfuls of flour.

Cream the butter and sugar, add the beaten eggs, then the flour and crushed peanuts. The dough should be just stiff enough to handle easily. Place spoonfuls of the dough on a floured board, and pat into round cakes. Sprinkle a little cinnamon on the top of each cake, and bake.

Things to Read Aloud

The World's Pest: Rats

JAPAN has just sent to this country an order for fifty thousand rat-catching cats to be collected for immediate shipment. This order is to be supplemented by a second of double the proportions of the first if it is found the cats can be readily obtained.

The Japanese government has offered a good, big price for this consignment of Toms and Tabbies, because Japan is being overrun with rats, and their need for the cats is very great indeed.

Aside from the main subject, although of much importance to the people of Japan, is the fact that the boys who are filling the orders of the contractors in response to advertisements are gathering up any old specimen of a feline that they can get their snares over or their hands on, just so it isn't a dead one, and a good per cent of them never saw a rat, and when they get first sight of a rat over there—the Jap rats are very large—they will never stop running until they get back home in the States.

The result of shipping cats of this character, or rather lack of character, may forever bar our product from the Japanese cat market. Let us hope that it will; it will be a blessing to the United States; we need our cats at home—very much indeed.

According to government estimates, the United States sustains an annual loss of somewhere around two hundred million dollars from damages caused by rats in the destruction of merchandise in the warehouses, elevators, in stores and in transit, in damages done to buildings, from fires started by rats igniting matches, nibbling the insulation from electric wires, and in various other ways.

Nor is the damage they do confined to the cities. The farmers suffer to the extent of millions of dollars in the destruction and damage to crops, newly-planted seed and seeds and grain in storage, harness, robes, grain-bags, young poultry and pigs, to smoke-houses and their contents, and almost everything else they can reach and destroy or spoil.

The rat pest, however, does not end in damage to merchandise. On the Pacific coast rats have been found with a leprosy-like disease, and every effort is being made by the authorities to clean them out. In 1906 the rat flea spread the bubonic plague that killed over five hundred thousand Hindus, and they have brought it to our coast cities from the ships.

An international league has just been formed throughout Europe and Asia for a systematic war on the rat, and our government has taken the matter up on its own account. It is understood to be the intention of the government, through the states, in coöperation with municipalities and counties, to offer a bounty of so much per rat for each tail delivered to the authorities. This is a plan now worked in Europe and in many cities in this country.

If the farmers would offer a bounty for rats killed about the buildings on their farms it would give the boys a chance to make some spending-money, as well as practically rid them of the pest of rats.

ROBERT M. WORDEN.

Versatile Miss Ella Phant

Mr. Hippo—"Yes, my girl, I'm the stage manager. What can I do for you?"
Miss Ella Phant—"I'd like a position in your show as a fairy, or if there's nothing in that line, I *could* act as porter—I'm so used to trunks."

Unique Peppermint Farm

HERE's ambition and pluck for you. It is enough to make mere man sit up and take notice. One energetic young woman in the southwestern part of Michigan has a farm all her own, and what sort of a farm do you think it is? Why, it's a peppermint farm. She manages it herself, too, and things go along like clock-work.

Forty acres are under cultivation, and each yields annually a profit of forty dollars, and often half again as much when the price of peppermint-oil rises. It fluctuates between one dollar and five dollars a pound, but the product may generally be held for a favorable price.

Of course, the best land for a peppermint farm is reclaimed swamp-land, although any low ground that is sufficiently fertile will do just as well. The crop should be changed every five years, and it is said that fifty pounds of oil to the acre may generally be produced for each of four consecutive years from the first cutting of the peppermint hay, and usually there is a second cutting which adds ten pounds more. The first crop of peppermint is in full bloom and ready for cutting about the middle of August, and a month later the second cutting may be made. The hay is then thrown into windrows and left until it is thoroughly dry, when it is ready to be run through a still and the oil extracted. To produce one pound of oil requires at least three hundred and twenty-five pounds of dry hay, but unless the soil is well fertilized the crops will rapidly deteriorate.

A Real Gold-Mine

THE best-paying gold-mine in the Western Hemisphere is the Esperanza at El Oro, Mexico, controlled by British and American investors. The mine in the year 1908 paid its owners $1,180,000, or over fifty per cent on its capital stock of $2,250,000. Since its incorporation, the company controlling the mine has been paid $9,427,500, being more than four times the capital invested.

What a Building Contains

A GREAT modern office building is a populous city, with its own system of interval transportation, and the materials used in its construction would build a very sizable village. The bricks used in the Singer Building on Broadway and Cortlandt Street, New York City, over five hundred million in number, would pave a foot-path twelve inches wide from New York to Boston. The steel could have been turned into seventy-four miles of railroad track, rails, spikes, tie-pieces and all. The building contains one hundred and thirty-six miles of metal piping, thirty-four hundred and twenty-five miles of wire, over thirteen miles of picture-molding and nearly nine miles of elevator cable. The total wall area is over twenty-five acres, and the area of the glass in the windows, doors, etc., is eighty-five thousand two hundred square feet.

The building represents the expenditure of eight hundred and sixty thousand days of labor—the work of about twenty-three hundred and sixty men for a whole year.

A Big City's Utilities

THE report of the New York Public Service Commission shows that during the year 1908 the surface, elevated and subway lines of the city carried over thirteen hundred million passengers—sixty-six per cent more than were carried by all the steam railroads in the country. The city traffic-lines are capitalized at five hundred and thirty-three million dollars, and their annual income is sixty-two million dollars.

The gas and electric-light companies in New York are capitalized at over three hundred and eighty-six million dollars. The gas companies sell annually thirty-two billion cubic feet of gas, more than twenty per cent of all produced in the United States. The income of the electric-light company alone is about twenty million dollars.

What Next?

IT HAS just been reported that many of the leading dentists in London have established "parlors" strictly for the treatment of dogs, and from all indications the business promises to be a flourishing and well-paying one. When "doggie" has a defective or decayed tooth his master immediately makes an appointment with the dentist, and the beloved pet is trotted off to have his tooth filled or extracted, whichever may be necessary. It is now a practice with fanciers to send their pets to a dentist as regularly as wise parents send their children. Single new teeth cost four and five dollars, while a full set costs as much as one hundred and thirty-five dollars.

Oh, Sugar!

THE average American consumes more than half his weight in sugar every year, for this country uses annually seven billion pounds of sweetness, worth at retail three hundred and seventy-two million dollars, thus paying more than a million dollars a day for its sugar. Of the home product in 1907, five hundred and forty-four million pounds were cane-sugar and nine hundred and sixty-seven million pounds were beet-sugar, the beet exceeding the cane product for the first time in the history of the industry.

American Statesmen Abroad

TRAINED American administrators are playing important parts in the political life of countries other than their own.

Durham White Stevens, who about a year ago was assassinated in San Francisco by a fanatical Korean, had made his mark as diplomatic advisor to the Emperor of Korea, to whose court he had been sent by Japan.

Henry Willard Denison, legal advisor to the Japanese Department of Foreign Affairs, received ten thousand dollars and an annuity of eight hundred and forty dollars in grateful recognition of his services in helping to end the Russian war.

Edward Henry Strobel was general advisor to the King of Siam from 1903 to 1908.

R. D. Bucknam is naval advisor to the Sultan of Turkey and builder of the Turkish fleet.

Ralph C. Whitenack is advisor to that Indian potentate, the Maharajah of Baroda.

Frank D. Pavey is advisor to the republic of Panama, Henry G. K. Heath to Santo Domingo and L. Herbert Andrews to Colombia.

Spinning a Bridge

GREAT suspension-bridges that serve as roadways for millions of people and endless streams of wagons, trains and trolley-cars are swung from towers of stone or steel by cables that are made up of thousands of wires spun back and forth by means of shuttles.

On the Manhattan Bridge across the East River, New York, the last of the 37,888 wires that will make up the cables was spun across the space of 3,230 feet between the towers on December 10th, after four months of work. The superstructure of the bridge will be completed in about a year.

German Emigration

DURING the thirty-seven years since the German federation was formed, 2,707,676 Germans have emigrated, nearly five sixths of that number, or over 2,000,000, coming to the United States. In the year 1907 there were 31,700 German emigrants, of whom 30,800 came to this country.

Because it is cleaner

There's a certain prejudice with most people in favor of hand made articles, but they draw the line at "hand made" when it comes to food.

Everybody wants clean food, and the idea of handling food doesn't suggest cleanliness.

The finest example we have anywhere of the care exercised to avoid the "hand made" in food is found in Quaker Oats, the cleanest food you can put on your table.

No grain of Quaker Oats is ever touched by human hands up to the time it is delivered to your kitchen. It passes through more than fifty siftings and dustings and washings and wipings and dryings before it is rolled and cooked; machinery doing every bit of it, even to standing each separate grain on end to dry after being scrubbed. Eat Quaker Oats daily for breakfast.

You can buy Quaker Oats, the cleanest of all oatmeal at 10c for the regular package, 25c for the large size family package, and 30c for the large size family package containing a piece of fine china.

SUMMER FASHIONS

Do You Want to Know All About Them?

THEN send for the Summer Catalogue of Madison Square Patterns. It is filled with charming illustrations of all that is newest and best in the summer fashions for little folks and grown-ups.

The styles are distinctive and yet they are practical.

One reason for their distinctiveness is that the patterns cannot be purchased at big stores or little stores. They can be obtained only by ordering them direct from the

Pattern Department
Farm and Fireside
11 East 24th Street
New York City

If you want this new Summer Catalogue, send your order at once. Inclose in your letter two 2-cent stamps (four cents). The catalogue will be ready for distribution June 20th.

Agents Wanted

$80 Month to Agents furnishing Everlasting, Self-Pinning Wire Clothes Lines to all homes. Always ready for use. Lightning seller. 100 ft. sample and terms 50c. prepaid. S. M. Schindel, Hagerstown, Md.

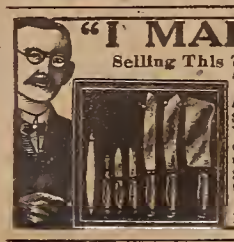
AGENTS PORTRAITS 35c, FRAMES 15c, sheet pictures 1c, stereoscopes 25c, views 1c. 30 days credit. Samples & Catalog Free. Consolidated Portrait Co., 290—31 W. Adams Street, Chicago

AGENTS WANTED Men or Women to sell Consumers. Big Profits. Groceries, Coffees, Teas, Extracts, Perfumes, Soaps, etc. With or without premiums. Write for catalogue A. Bushway Flavoring Extract Co., 951 N Water St., Decatur, Ill.

JUST OUT Low priced, 3-lb Mop: turn crank to wring; hands keep clean. Women all buy; 150% to Agents; exclusive territory given; catalog free. U. S. MOP CO., 563 Main St., Leipsic, Ohio.

AGENTS Every Housewife Buys at Sight Our Perfection Noodle-Cutter Bonanza for hustlers. Low price, quick sales, large profits. Small, light, easy to carry. Agents' OUTFIT FREE. Write today. FORSHEE MFG. CO., Box 1012, Dayton, Ohio

AGENTS My Sanitary Coffee Maker produces pure, sweet coffee, needs no settler and never wears out. Saves coffee, money and health. Every wife buys at sight; new invention; exclusive territory. Send 15c. for 50c. size, postpaid. DR. LYONS, 253 Day St., Pekin, Ill.

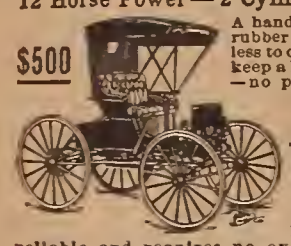


"I MADE $12 PER DAY Selling This 7-Piece Kitchen Set"—*Sworn statement of H. S. CUNNINGHAM.* **AGENTS** coining money. Selling from 50 to 500 sets per week. You can do it. Send your address today and let us PROVE IT. Experience unnecessary. We show you how to make $3 to $10 a day. OUTFIT FREE to workers. Start quick—write today. THOMAS MFG. CO. 1616 Barney Blk., Dayton, Ohio

$18 to $30 A WEEK SURE Farmers "Ever-Ready" Tool Kit does it. Agents going wild over results. M. Snyder made $46 in 2 hrs. Joseph Pine took 65 orders in two days. M. D. Finch sold 42 in 9 hrs. Had no experience. You can do it. To show it means a sale. FREE SAMPLE to workers. Foote Mfg. Co., Dept. 801 Dayton, O.

The Economy Motor Buggy

12 Horse Power — 2 Cylinders — Air Cooled



$500

A handsome, practical, solid rubber tire motor buggy. Costs less to own and operate than to keep a horse—no tire troubles—no puuctures or blow-outs.

Most Economical Motor Vehicle Made

Suitable for country or city—rough roads no obstacle. A great hill climber—goes anywhere 4 to 20 miles per hour. Absolutely reliable and requires no experience to operate. Every "Economy" is fully guaranteed. If you are interested in a Motor Buggy, we have the best proposition to make you that you have ever heard of. Write us at once for catalogue and full particulars.

ECONOMY MOTOR BUGGY CO.,
Department Y Joliet, Illinois

This is a Real Automobile on High Wheels

We ask experts to read our catalog and take our cars apart to discover how we could improve them. And we ask you to send us your name and read our catalog to understand why we have spent so much time and money to make the Schacht the highest standard high-wheel automobile in the world. You should not risk buying any car of this type before investigating the differences in money-worth values. Write us for the book.

THE INVINCIBLE SCHACHT

Schacht Mfg. Co., 2730 Spring Grove Ave., Cincinnati, O.

Write for Catalog.

Start your Gas Engine with the **Motsinger Auto-Sparker** and run it without the aid of batteries. Not a cheap magneto but the original high grade speed controlled friction driven dynamo. Perfectly insulated, "water and dust proof." Fully Guaranteed. Operates "make & break" and "jump spark." Charges all storage batteries for ignition and lighting on a small scale, perfectly with our special switch board in the circuit. Ten years actual service with over 36,000 Auto-sparkers in operation to testify to its merit.

MOTSINGER DEVICE MFG. CO.
24 Main St., Pendleton, Ind., U. S. A.

Are You in Want of an Auto?

If so, we can save you money. We are the largest dealers in new and used autos in the world. A responsible firm known to thousands through good, fair treatment on good machines. Get our big cut-rate bargain list. Write for it to-day. Deal with a responsible house. References: Dun's, Bradstreet's or Metropolitan Bank, New York; National Newark Banking Co., Newark, N. J.; Foreman Bros.' Banking Co., Chicago, Ill. Write to-day.

TIMES SQUARE AUTOMOBILE CO.
NEW YORK: 1597 B'way & 215-17 W. 48th St. CHICAGO: 1332-34 Michigan Ave.

Do You Want This Arts and Crafts Belt-Buckle?

YOU can get this handsome and unique belt-buckle without cost from FARM AND FIRESIDE. It is one of the finest designs in the new Arts and Crafts jewelry, which is now the fashionable fad. Each piece of Arts and Crafts jewelry is an exact imitation of old Egyptian jewelry worn centuries ago. It is impossible to show the beauty and style of the buckle in a picture. The design is most curious, and the contrast of dark green and bright metal is very stylish.

Do This To-day

Send us two subscriptions to FARM AND FIRESIDE, and we will send you the Arts and Crafts belt-buckle (2¼ by 1⅞ inches), post-paid, without cost to you. The subscriptions may be either new or renewal. One subscription may be your own. Either subscription may be a one-year subscription at 35 cents or a two-year subscription at 50 cents.

If you prefer, we will send you in place of the belt-buckle, either the Arts and Crafts watch-fob or the Arts and Crafts shirt set (stick-pin and cuff-buttons). The watch-fob is of dark green ooze leather with Arts and Crafts buckle, and is very stylish. The Shirt Set of stick-pin and cuff-buttons is unique and attractive.

Take Your Choice

To put our liberal proposition in a nutshell, if you will do FARM AND FIRESIDE the favor of sending us two subscriptions, you can have your choice of the following Arts and Crafts jewelry:

Belt-Buckle, Leather Watch-Fob, Stick-Pin and Cuff-Buttons

Our supply of this attractive jewelry is limited. To be sure of being in time, you should act at once.

FARM AND FIRESIDE
SPRINGFIELD, OHIO

Suggestions for Mothers

Concentration

ALMOST every man when questioned will say that the first essential to success is "concentration."

There are people so quick at learning that they give the impression of being able to do things without concentration, but a strict investigation will generally go to show that it is only in little things that they excel. Nothing really big is possible without concentration.

The habit of concentration is very difficult to acquire in mature years. It should be taught in earliest infancy—babyhood, in fact.

Parents lay too little stress on this most important factor. They think if their children are well fed, housed and clad it is sufficient for the first few years. Afterward school is supposed to supply everything else necessary.

This is a mistake.

It is the parents who should be the real educators of the child, inasmuch as they should instil the broader principles which make for a perfect balance of mind and body and the right living resulting therefrom.

A year-old child can have its first lesson in concentration.

A wise mother gives baby one toy at a time only, and when he throws it down, picks it up again and hands it back with "Look, baby, brown dog." This is repeated until the child knows the shape, color and peculiarities of the toy in question and can pick it out from a mass of other objects. All its faculties are bent in one direction until it knows as much about the object in question as its intelligence is able to comprehend. This is the first lesson and embodies the whole principle of concentration.

Later games are played—horses, for instance. The mother fixes a pair of toy reins on the child and drives him before her around the room. During this game she tells baby as much about the horse as he is likely to remember, returning to the subject again next day with the game of horses.

This system is followed all through the years of infancy. The child is never allowed to do two things at once, any inclination to do so being instantly checked.

The child is taught to distinguish objects and sounds and to instantly recall all it knows about them.

A modern educational test is to make a child pass through a room in which are many objects, and afterward write a list of what it observed. It is amazing how much a well-trained child can see in just walking through a room.

The habit of concentration should be well established before school begins. Then the child is in a position to take advantage of the opportunities therein offered.

A child with very ordinary intelligence who has the habit of concentration can frequently surpass an exceedingly clever child whose attention wanders.

The parents' teaching, however, should not end with the beginning of school, but should continue until manhood or womanhood is reached, and the system should of course be introduced into play as much as work.

I have seen boys going to a foot-ball match with school-books in their pockets to be studied on the train going down. This is a tyranny of learning and should be discouraged. School should be put out of the mind for the time being and all energies directed to play.

By adopting this method the brain gets its proper allowance of rest, and in consequence is able to do better work.

When finally school is over, and the boy or girl has decided on a career, the habit of concentration will prove the most valuable of all assets, making possible success in any work undertaken. A. J.

For Mother's Busy Hands

WHEN household duties render it necessary to have the hands frequently in soap-suds and hot water, no evil results will follow if they are immediately washed with vinegar or lemon-juice. The acid of the lemon or vinegar neutralizes the alkali in the soap and prevents injury to the skin.

The most hopeless-looking hands may be greatly improved by a little care and attention. They should be soaked every night for at least ten minutes in a bowl of warm water or milk. They should receive a careful drying on a soft cloth, and afterward rubbed with some good oil or cold-cream. Particular attention should be paid to the cuticle about the base of the nail, pressing it down gently while working the oil into the skin. This prevents cracking and hangnails.

What Do Your Children Read?

MANY parents object to their children reading stories, and indiscriminately condemn all good story-books as novels. They will not allow such books to be brought into the house, nor will they even examine them.

These same people who so strenuously fight so-called novels will allow all sorts of cheap almanacs and medical books to come into their homes. These books are sent through the mail and passed around promiscuously on the streets or thrown into buggies when they are hitched in town. Every circular that comes through the mail should be examined by some older member of the family, and if not desirable, be promptly burned.

Children had better read half a dozen story-books than one medical book with its accompanying pictures. When you get into your carriage after being in town the next time just make a collection of the trash you find in it. You will soon see that it is more valuable to light the fire with than to serve as reading material for the children.

Children with few exceptions will read. In the absence of good books they will read poor or even bad ones. Some parents tell their children to read their school-books when they are asked to provide reading material. School-books are all right in their place, but children tire of them, and with good reason. Besides reading them themselves, they hear the other children read the same books. Any bright child will not drone over something that he has heard several times. Grown people know how monotonous it is to be compelled to listen to the same stories from the same people time after time and to be expected to laugh at the right place whenever the story is repeated.

If you see the children sitting off by themselves reading, or reading in the barn, it is just as well to find out what they have and where they got it. A taste for this kind of reading is much easier formed than broken up. If never formed it will never need to be broken up.

MARGARET WHITNEY.

Care of the Ears

SHOULD the ears appear pale and wax-like, bathe them with a mixture of rose-water and benzoin. Should quick results be desired, a tiny bit of rouge applied to the tips and lobes will give them a healthful appearance.

Cleanliness in the care of the ear is the main point of consideration. Care should be taken to see that they do not become stopped up with the secretion or wax. If the wax is hard, a little warm water may be injected with an ear-syringe. Sharp instruments, such as pins and toothpicks, should never be inserted in the ear, as they are liable to produce permanent injury to the organ of hearing.

For Clearing the Complexion

CHARCOAL is very effective in clearing the complexion. Mix one teaspoonful of powdered charcoal with water or honey, to be taken for three nights in succession. Then use some simple purgative, such as rhubarb or magnesia, to remove it from the system. Taken in this way the result is the same as if calomel were used, with none of the bad effects of the latter. The purgative must not be omitted, otherwise the charcoal, poisoned by absorption, will remain in the system.

Don't Read Lying Down

DO NOT read, sew or write in a glaring or dim light. Either will strain the eye and impair its strength, not to mention the reddened and watery appearance it will impart to the lids. Reading when lying down should never be indulged in. It flattens the ball and causes impaired sight more often than any other imposition practised on this long-suffering member.

To Contract the Pores

AFTER removing blackheads from the face, see that the pores are at once contracted by the application of alcohol or acetic acid. The tiny pore alone should be touched, and not the surrounding skin. When the pores have all been touched with the acid, let it dry for a moment, after which some cold-cream may be rubbed on, to allay any possible irritation.

Stains on the Hands

STAINS of ink or paint on the hands may be removed by a bit of toilet pumice-stone, or with benzine, nitric or oxalic acid. A little vinegar and water is also effective.

Duty or Privilege?

"IF IT were not that I think it a sin to allow children to grow up in ignorance, I never would try to teach the girls sewing and household duties, and I'd allow the boys to throw their things right and left," said a vexed young mother. "I'm sure it's a great deal easier to do the work myself than to have all the trouble of keeping them at their tasks. I've seen children who seemed to like to help about the house, but mine are not like that in the least. I'm all provoked and discouraged when I get through with a cooking or sewing lesson, and it takes a pitched battle to keep the playthings and wraps in their proper places."

"That's just it, Martha," said her wise cousin. "It's duty, duty, duty all the time. Why don't you try making these things a privilege if you want your children to like them?"

The mother listened with doubt in her face as her cousin unfolded her plan. It sounded beautiful, but Cousin Emily never had had any children, so how could she know anything about teaching them. But Cousin Emily was not to be balked, so she offered to give the young woman an object-lesson and illustrate it with her own naughty little ones who had just been scolded roundly and sent out of the house.

The crafty elderly woman hurried to prepare several bits of easy sewing, and when the youngsters came back into the house remarked that she wished she could have a little help with needle-threading, as her eyes were not what they once were. She added to this statement that she did not suppose it would be possible for the children to do such a thing, as they had had little experience. That was enough. Each child immediately proved that needle-threading was the easiest thing in the world, to the great astonishment of their cousin, who led them on to try the sewing by the same plan. Presently they were all happily at work, and a half-hour passed before any one grew weary. Even the boys took a hand at making chamois marble-bags, and when Cousin Emily declared it was too late to do anything more there was a general cry of disappointment.

In cooking the result was the same. If Cousin Emily wished for a pair of hands to beat up the eggs, and lamented that the children had never learned to do such things, immediately some one undertook to prove that egg-beating was mere child's play, and when the dishes were to be wiped she innocently wondered whose turn it was, as she was anxious not to allow any one of the little folks too many privileges. She praised abundantly and ignored the little failures, so that the children were her devoted slaves before the week was past. Nobody watched the clock to see the exact minute when the hated sewing could be put down, and there was no wrangling about chores under the new system. Of course the tasks were very light and the periods of work short, not to wear out the children, but everything was free and happy and joyous about the service. "Who wants to help?" was the question, and the old cry, "Children, you must put away your playthings at once and do your chores!" uttered in a combative tone, was banished.

"You were right, Cousin Emily," said the mother at the end of a week. "I thank you very much for your help, and hereafter the duties shall all be privileges until the children are older."

HILDA RICHMOND.

The Wise Mother Knows

That if good manners are not taught at home, they will not be practised abroad.

That the habit of making a greater favorite of one child than another is disastrous and leads to much family unhappiness.

That all children should not be punished alike, but that their individuality should be studied and correction administered suited to each.

That constant threatening of punishment never carried out, and the making of promises that are never performed, destroy a child's faith in its parents.

Care of the Feet

IF THE feet perspire, bathe them in salt and water every morning, to harden them. If the feet are very tender, soak at night in tepid water to which has been added a little arnica or a few drops of carbolic acid. Dry carefully, and dust with carbolated talcum.

How Graham Fought the Fire

By Pearl White McCowan

It was a little log house. There were plants at the windows, and white curtains, and all about an air of homeliness and frugal comfort.

Inside, a woman lay upon a bed in one corner of the little front room, and beside her was a new-born babe. A man sat at a table and looked across at her—a tall, broad-shouldered, manly man, with strength and determination written large upon his face. His hair was damp and matted, his collar open to the faint breeze which was stirring, while, with his sleeves rolled up to the shoulders and his strong bare arms thrown out upon the table, he sat and gazed with tenderness and almost awe upon the woman. The wonder of that world-old miracle of birth, and life, and love, was strong upon him.

The white, pinched features of the woman were softened by a mass of gold-brown hair which waved and rippled about her face. Her eyes, deep dark blue and loving, gazed up contentedly into his. It was the face of a woman that a strong man might fight and die for, the face of a tender, wholly womanly woman.

And even as he looked upon her she slept—a natural healing slumber as peaceful as a child's.

Then slowly, tortuously, his mind led him back over the nightmare of the last two days, when they had watched to see her young life go out. Finally, when hope was almost gone, she had rallied. Slowly she had come back to life—and them; and now a great tenderness surged up within him. Tears stood in his eyes, a dry, soundless sob shook his frame, as he allowed himself to realize what it would have meant to him had he lost this woman, and with it all a great thankfulness grew up within him that God in the infiniteness of His mercy had still spared her to him.

The strain relieved, he stretched his arms out upon the table, and slept.

How long he slept he knew not. It might have been only a few moments, it might have been hours, but he awoke suddenly with a sense of impending disaster. His wife was still resting. The wind had come up while he slept, and was blowing a gale. He walked quickly to the door. The smell of smoke and burning leaves was in the air. What he had feared for days had come.

He stepped to the bedroom door and spoke to the nurse. Pointing to his wife, he gave a few hurried directions.

"Keep the curtains drawn," he said, "give some excuse for my absence, and above all don't let her be frightened."

Catching up his cap, he hurried outdoors. Above him rustled the leaves, dry and parched, on the trees. For months there had been no rain. Forest fires were raging in all directions. For a fortnight they had been nauseated with the smell of smoke and dust and burning timber. Twenty miles to the west a town had been wiped out the night before. A dozen families were homeless. Forty rods away, down in his "slashing," he could see the fire leaping and raging in fitful gusts. For a week it had been burning back in the woods, but the wind had driven it away from the house. Now it was coming straight toward them. He caught up a shovel, and ran.

The fire was just getting out into the meadow, where the long, dry grass proved excellent fuel. He threw shovelful after shovelful of dirt upon the most ambitious fire, and just as he had conquered it and stopped to breathe a bit, he saw down across the field a dozen little tongues of flame making their way rapidly out into the meadow and already three or four feet ahead of the one he had just put out. He sped across the field and angrily fought them back. Then he looked again, and saw that in half a dozen places the fire was getting ahead of him.

He ran to the barn, harnessed his horses to the plow, and hurried back to the meadow, where he plowed a dozen furrows with his horses whipped to a trot at almost every step.

His horses once more in the barn, his one idea now was to keep the sparks from blowing across the plowed ground. By this time it was daylight and the wind had increased to a gale. For three hours he worked, doggedly, persistently, beating it out here, throwing dirt there—and then, over on the other side of the furrows, down toward the farther side of the field, he saw a spark that had escaped his vigilance spring into life, and fanned by the high wind, break into instant flame. Across the field he tore, worked like mad, and looking back, saw fire in three or four more places on this side. Back to the barn he ran again for horses, and bringing them, plowed on a run a dozen more furrows, then went to work again to keep it from crossing a second time. Thus the morning's experience was repeated, and then repeated again, and now at noon he knew that if it crossed again it would go into the dry, crackling buckwheat, beyond which was the house and the barn and the straw stack. For another hour he managed to keep ahead, and then there in the buckwheat shot up a long yellow flame, crackling, leaping, shooting sparks, it fairly flew among the buckwheat. With a courage born of despair he pounced upon it, and just at that moment two other men hurried into the field and fell to work with a vigor, and he knew that John Newstead and Mike Flannigan, with characteristic Northern big-heartedness, had left their own burning woods and fields to give assistance to a brother man more sorely beset than they. The sight gave him courage, and he fell to work with renewed energy. It was now two o'clock in the afternoon, and for a while they kept ahead of the fire; but the wind was a very demon in its fury, and it lashed and shook the flames, until, in spite of all their efforts, it slowly gained upon them.

Doggedly, persistently, then frantically, desperately, they fought, beating it out here, throwing dirt there—and still the fire crept slowly, surely, toward the house.

Four o'clock came. "Pretty little blaze down there," commented Mike Flannigan, and pointed with a grin to his little "shack" as it burned brightly in the breeze. A half-hour later John Newstead's new house, nearly finished and almost ready for occupancy, the product of long years of hard labor and rigid economy, was seen to be directly in the path of the flames. But when Graham called his attention to it, he only smiled grimly, and said, "There ain't no sick folks in thet house, an' I guess we can live in the old one a spell yet. It's done all right for nigh onto twenty years, an' we've back fired all around it so the fire can't reach it very handy." Fifteen minutes later the fine new structure was a roaring mass of flames.

At five a gray-haired man drove rapidly down the road, tied his horses out of reach of the fire, and pulling a shovel from his buggy, rapidly made his way toward the little band of sweating, blackened fire-fighters. It was Graham's wife's father. An unfortunate business deal years before had estranged the two families, and he had vigorously opposed his daughter's marriage to Graham, finally declaring that he would never set foot in their house, and he had kept his word until now; but the father heart had awakened to their call of need. He had heard in a round-about way of their danger, and had come post haste to help.

Only quizzical glances greeted him. The men were too busy to talk, and besides, they were very near the house, and inside was a woman all unconscious of danger and very ill.

Grim, silent and madly desperate they fought on—carrying water, beating it out, shoveling, tramping, working fiercely, frantically, and all the while the wind blew a terrific gale, and the sparks flew in showers. The nurse brought out wet blankets and climbed herself to the roof and spread them out. The walls were blistered with the heat.

The gray-haired man made his way to Graham's side, and pointing to his buggy, said quickly, "We must get her out of this. Take my buggy." But the young man cut him short. "My God, look!" A spark had fallen into the straw stack, and that was beginning to blaze. Both men ran to the spot. Up the side climbed Graham and pounced upon it like a madman. Things whirled before him; he felt that the shock of it would kill his wife; blank, utter despair stared him in the face—and then—a terrific burst of thunder, and almost at the same instant a big splash of rain upon his cheek.

Quick as a flash his courage returned. The elements were with them in their fight. Each man worked with renewed vigor. Hope surged once more in their breasts, and while they worked, the storm gathered volume, and in ten minutes more the rain was falling in torrents.

With a few gruff words of thankfulness the men bared their heads to the rain. A moment thus they stood and drank in the blessedness of it. Then Newstead turned and strode toward home. "Come on, Mike," he commanded gruffly. "The old house is a bit small, but we'll find a peg for you somewhere."

Then the two, Graham and his father-in-law, stepped into the shelter of a shed and looked into each other's eyes. The older one finally broke the silence.

"Here's my hand," he said; and then bruskly, to hide his emotion, "S'pose I can see Marie now, or will it upset her?"

The wistfulness in the old man's eyes touched young Graham, and he wrung his hand. "Don't know," he replied huskily. "I haven't seen her-myself since last night." And then turning, with a whimsical little smile, "I'll go in and see. Perhaps I can break it to her gently, you know."

They passed into the kitchen, where they washed off the grime and black.

Then Graham tiptoed softly into the little front room, where his wife stirred uneasily as he entered, then opening her eyes, motioned him toward her. He knelt at her bedside and bowed his head to hide the tears that sprang to his eyes in the sudden overwhelming sense of gratitude for her safety. Strong man though he was, he felt the hot tears well over and trickle down his face, and he dared not look up as he felt her soft fingers in his hair and her tender voice saying, "Boy, you are tired. Nurse told me you had been out in the woods fighting fire all day long—and I've been sleeping away all the time. Aren't you glad the rain came before there was any danger to our buildings?"

Little she dreamed how close they had come to actual harm. Time enough for that later, he thought. When he could control himself, he asked gently, "Can you bear a surprise, Marie? Who do you suppose has come to see you?" But he was surprised himself when her eyes lightened, and she replied quickly, with the intuition that sometimes comes to the ill, "Oh, father! I thought he would! I've been dreaming about him."

The nurse, happening in just then, was told to call him, and Graham watched two white arms steal upward, while a gray head bent to meet a golden-brown one, and then he bowed his head—and slept.

Answers to Puzzles in April 25th Issue

No. 1—Square Word

P U M A
U R A L
M A S S
A L S O

No. 2—Square Word

E M I L
M I L E
I L L S
L E S S

No. 3—Square Word

T A F T
A R E A
F E A R
T A R S

No. 4—Anagram

E-gypt
A-lbany
S-axony
T-oledo
E-lmira
R-ouen
} EASTER

No. 5—Beheading

Sheaves, heaves, eaves, aves.

No. 6—Beheading

Grasp, rasp, asp.

No. 7—Enigma

Africa.

An Eye on the Future

Tommy's maiden aunt had called attention to some of that young man's misdemeanors, thereby causing him to be punished. Tommy pondered a while, then asked, "Papa, will little sister Gladys be an aunt to my children when I am a man?"

"Yes, Tommy," answered his father, much interested. "Why do you ask?"

"'Cause she might just as well get married and have a home of her own, for I don't intend to 'low any aunts to stay around my house, making trouble for my children."

She Wasn't Selfish

A little girl of three was having a naughty time of it one evening. The mother undressed her and put her to bed and decided to leave her for a time to the gentle administrations of her father. He succeeded in quieting her. The mother came to bid her little girl good-night, and upon asking, "Well, dearie, have you asked God to forgive you?" received the reply:

"Yes, and I asked Him to forgive you, too."—The Delineator.

A Cave

Cholly—"The dentist told me I had a large cavity that needed filling."

Ethel—"Did he recommend any special course of study?"—London Public Opinion.

KODAK

Means photography with the bother left out. Picture taking is simple and inexpensive by the Kodak system, and there are pictures everywhere that are worth the taking.

Ask your dealer or write us for a copy of our illustrated booklet, "The Kodak on the Farm."

EASTMAN KODAK CO.
382 State Street,
ROCHESTER, N. Y.

WANTED
Traveling Salesmen

YOU Can Be One Over 500,000 are now employed in the United States and Canada, and thousands of new ones start every year. Traveling Salesmen earn all the way from $1,000 to

$10,000 A YEAR

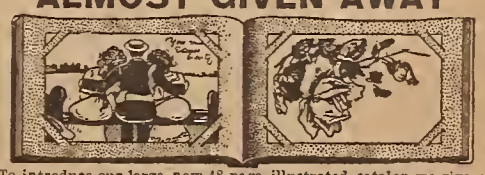
and expenses. We will teach you to be an expert by mail in eight weeks.

Our Free Employment Bureau

the largest of its kind in the world—will assist you to secure a position with a reliable firm. We received calls for Salesmen from over 3,000 firms last year and placed hundreds of our graduates in good positions. Scores of them who had no former experience and who formerly earned from $25 to $75 a month have since earned from $100 to $500 a month and expenses. If you want to qualify for a good position on the road and enter the most independent, well paid and pleasant profession in the world where you can increase your earnings from two to ten times, write (or call) our nearest office today for our free book, "*A Knight of the Grip*," which will show you how. Address

Dept. 168, National Salesmen's Training Association,
New York Chicago Kansas City Minneapolis San Francisco

POST CARDS AND ALBUM ALMOST GIVEN AWAY



To introduce our large new 48-page illustrated catalog we give a beautiful album, fancy colored cover, black leaves, filled with lovely art post cards, **practically without cost.** Send 10c coin or 1-c. stamps to cover postage and packing. Only one album to each customer. Address
HOMER GEORGE CO., Dept. 220, CHICAGO, ILL.

PATENT YOUR IDEAS

$8,500 for one invention. Book, "How to Obtain a Patent" and "What to Invent" sent free. Send rough sketch for free report as to patentability. Patents advertised for sale at our expense in fourteen Manufacturers' Journals.

Patent Obtained or Fee Returned
CHANDLEE & CHANDLEE, Patent Att'ys
Established 16 Years
910 F. Street, Washington, D. C.

PARKER'S HAIR BALSAM

Cleanses and beautifies the hair. Promotes a luxuriant growth. Never Fails to Restore Gray Hair to its Youthful Color. Cures scalp diseases & hair falling. 50c. and $1.00 at Druggists.

12 POST CARDS GIVEN AWAY

We will send you 12 of the prettiest post cards you ever saw if you send 4c. to pay postage and mailing and say that you will show them to 6 of your friends.
New Ideas Post Card Exchange, 1212 Frankford Avenue, Philadelphia, Pa.

LEARN TO WRITE ADVERTISEMENTS

IF YOU ARE EARNING LESS THAN $25 A WEEK we can positively show you by mail how to increase your salary. Send for beautiful prospectus, mailed FREE.
PAGE-DAVIS SCHOOL, Dept. 25, Chicago, Ill.

Sell Post Cards During spare time. Big pay. Send 15c. for Sample Album and Agents' complete outfit. Money returned if you order. Draper Ptg. Co., Des Moines, Iowa.

It is to your advantage to mention Farm and Fireside in writing to advertisers. Farm and Fireside folks get the very best attention.

Farm Notes

The Value of Farm Lands

WHAT is the cause of farm land being so cheap in New York State? This question, which came up at one of the New York farmers' institutes this winter, is one which might with equal propriety be asked in almost any of the Eastern states. There appears to be a decided lack of balance between farm values in the Middle West and in the East. Why should this be so? Several causes tend to bring about the result, among which may be mentioned the following:

Eastern land is harder to work. This is not true of all land, but it is true of a great deal of it. Few farms are so favorably situated that they do not carry some steep, rocky or irregular land which must be tilled, if at all, at increased expense. True, many parts of New York State are as level as the prairie states, but this in itself does not seem to make them much more valuable than other lands not so favorably situated. Some of this level land is heavy and not so easily tilled as most Western land. Other parts are light and sandy, lacking in fertility.

The Fertility of Eastern and Western Lands Compared

Taken as a whole, Eastern lands are less fertile than Western lands. There are limited areas, like the famous Schoharie Valley, which will vie with any region in fertility, but these do not represent the general average of conditions. Part of this difference is due to the natural character of the land, and part is due to the fact that the East is older and the land has been cultivated longer. This would not so much matter if it had been handled wisely, but it has not. Here and there in every locality are farms which have been in good hands which are as fertile now as ever, which are perhaps bearing better crops than ever before, but such farms are the exception. Farming, East and West, has been too much of the character of mining, using up stored fertility, and too little of the character of banking, with deposits always in excess of drafts. The sons are learning the lesson, but this does not relieve them from paying the penalty of the fathers' overdrafts. The farmers of the West have been no more virtuous in this than those of the East, but with their naturally richer soil and the shorter time under cultivation, the results are as yet less apparent than in the East. This means that while the Eastern farmer must first count on a heavy fertilizer bill if he is to secure a maximum crop, the Western man can call upon the soil alone to produce it. He therefore pays for this extra benefit in the higher price of the land. Slowly but surely, however, this difference is disappearing and the Western farmer is finding that he, too, must consider ways of maintaining fertility if he is to continue to produce full crops. His soil when taken from the prairie was full of humus, but this will as surely disappear as did the humus from the virgin forests of the East; then, no matter what stores of plant-food the soil may contain, it will not respond as it formerly did.

The Trend of Migration Has Been Westward

Another reason for the difference in value of land appears to lie in the fact that we have not recovered from the western swing of the pendulum of migration. When land was abundant and fertile and farms were cheap the cry of "Westward, ho" took many a family toward the setting sun. The movement continued after the opportunities had been equalized and even when the best doors of opportunity lay behind rather than before. Most men like the breadth and scope of the West, the freedom, the cordiality and the energy of its people, and they stay. The Western child grows up with the idea that the East is slow and moss-ridden, and he seldom thinks of migrating eastward.

Since Eastern lands were settled and the types of farming established, great changes in industrial conditions have taken place. A readjustment of methods, and sometimes a reapportionment of land areas, must come about in order that Eastern farms may yield their best return. In agriculture such things move slowly, as a rule. The readjustment is not complete; profits are for this reason alone often unsatisfactory, and when profits are not forthcoming, farm values will not be high. The West, being younger, has not so much felt this need of readjustment; in fact, is in itself largely responsible for its need in the East. The types of farming which were undertaken in the beginning can continue to a great extent.

Many of the problems which confront our agriculture to-day are sociological, and I suspect that one of the chief factors which influences this matter of farm values is a sociological one. There is a different attitude toward agriculture in the West. Agriculture is the chief interest in the Western states. Farmers are more prominent in the affairs of the community and of the state, and the farmers' sons look with more favor upon the profession of agriculture as a life-work. This is not to claim for a moment that there are not farmers in the East who occupy as prominent a place in public affairs as any in the West. It merely means to state that the condition is more general in the West. Fortunately this attitude is changing. Men here and there and everywhere are demonstrating that Eastern lands can be made to pay, and other men are anxious to emulate their example. Agricultural education is feeling a new impetus in the East as in the West. Young men are looking toward the farm and farm lands are beginning to be sought after. In due time these things will have their effect.

Meanwhile why not invest in New York, New England or other Eastern farm lands? The present opportunities may not long continue. In fact, the best time for the buyer has already gone by. The man who has capital to invest in a farm to-day may well look toward the East rather than toward the West. The markets are at our doors and the opportunities exist for almost any type of agriculture which may suit the fancy of the purchaser, a far greater range from which to choose than is possible in most parts of the West. The possibilities of intensive methods are heralded on every hand and are very apparent. But why not the opportunities for extensive methods, also? If the Western farmer can produce beef at a profit on land worth one hundred to one hundred and fifty dollars an acre, why may not the Eastern farmer produce it on equally good grazing land at twenty-five to fifty dollars an acre? If sheep husbandry is profitable on Western lands with large flocks and areas, why not equally profitable on our Eastern hillsides, natural sheep lands, for the man who will undertake it on the same scale? Eastern fruit lands are of equal promise. The low price of Eastern farm land may be discouraging to those who for any reason must sell, but it is full of hope for those who wish to buy and become owners of a farm and a home in this land of the rising sun.

Morningside Farm. FRED W. CARD.

New Saws and Fresh Filings for Farmers

'Tis easy enough to crow optimistically
When the hens are scratching and playing,
But the rooster that makes a show
Is the rooster that can still crow
When not one of the hens is a-laying.

A good road is worked by travel.

A farm is divided by fences and multiplied by the stock.

The demand for draft-mules has declined in the past few years.

Artificial eggs are being manufactured in Paris, but the American hen cackles as lustily as ever.

The farm is as wide as the field, as long as the fence, as high as the trees and as deep as the well.

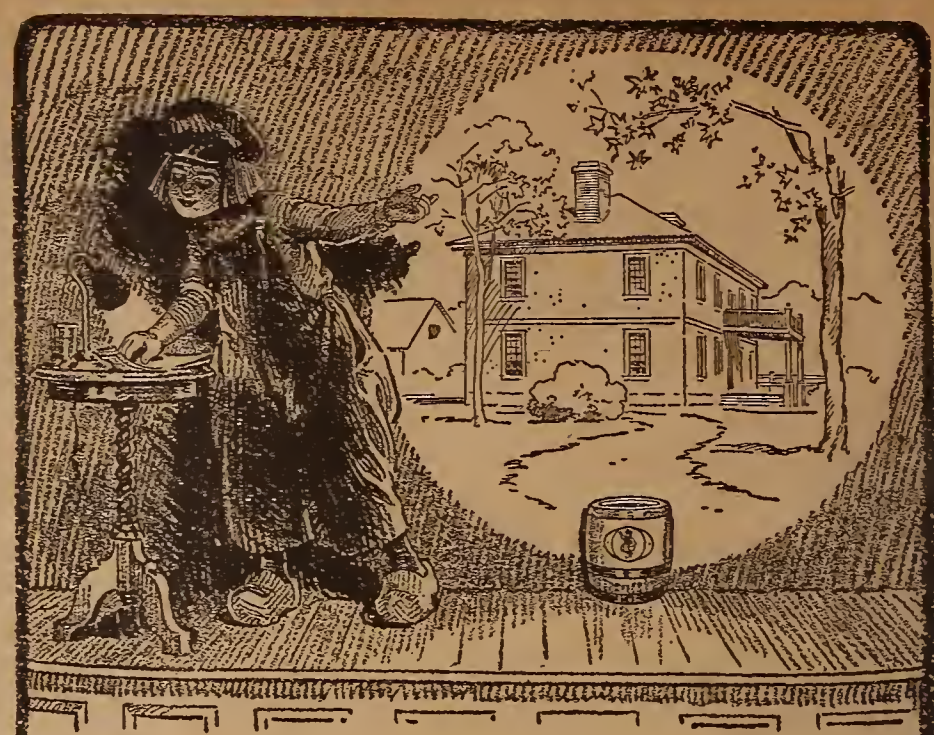
A farmer in Alabama, who was farming with but one ox, raised eight bales of cotton, one hundred and twenty-five bushels of corn, an acre of potatoes and an acre of sugar-cane. This is considered a big crop on a small scale.

Speaking about oxen—a Southern farmer came to town recently with seven bales of cotton on a wagon drawn by two yokes of steers. The cotton weighed thirty-five hundred and seventy-six pounds. This is an evidence of the great advantage of good roads.

When there is continued dry weather, and water for the stock becomes scarce, ponds and running streams failing on every hand, the farmer has to lift water for his stock, which at best is burdensome, then he has reason to be thankful for the fact that the deep well holds out.

Farmers who live in the neighborhood of a canning-factory get six dollars a ton for their green corn. Five to eight tons can be grown on an acre in an average year. They are paid, also, from three dollars to six dollars a ton for squash and pumpkins. An acre of pumpkins will bring about a hundred dollars.

WILLIAM J. BURTSCHER.



Paint Talks, No. 7—Painting Cement and Concrete

Cement and concrete are bidding for popular favor as building materials. The only bar to their immediate favor is their liability to discolor and streak.

Paint is their only salvation. But paint—even the best—so often softens and becomes sticky, bleaches or scales off cement. What is to be done?

The whole trouble lies in the moisture and alkali in the cement. Let it stand a year or eighteen months and there is no trouble. To artificially age it, two methods are effective. (1) Wash the surface with zinc sulphate dissolved in water. (2) Wash it with carbonic acid water.

When dry, paint with pure white lead and pure linseed oil, according to specifications which we will send on application.

Do not use sulphuric or muriatic acids as a wash before painting and do not try to get along with a substitute for linseed oil. Kill the alkali as directed and use nothing but pure white lead and linseed oil paint.

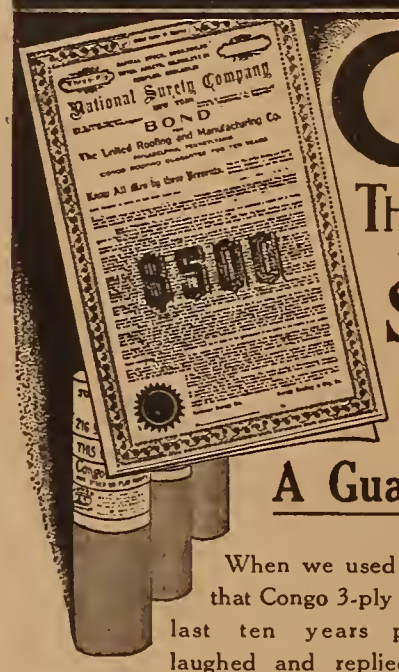
Write for Houseowner's Painting Outfit 47. Contains specifications for all kinds of painting, color schemes, etc.

Buy of your local dealer if possible. If he hasn't it, do not accept something else, but write our nearest office.

NATIONAL LEAD COMPANY

An office in each of the following cities:

New York Boston Buffalo Cincinnati Chicago Cleveland
St. Louis (John T. Lewis & Bros. Co., Philadelphia)
(National Lead & Oil Company, Pittsburg)



CONGO

THE ONLY ROOFING GUARANTEED BY A SURETY BOND

IT PROTECTS YOU ABSOLUTELY

A Guarantee Without a Loophole

When we used to say that Congo 3-ply would last ten years people laughed and replied that "Everybody claimed that." When we offered to *guarantee* such service they said "Guarantees mean nothing"—the buyer can never enforce them."

So we went to the National Surety Co. and paid them a large cash premium to issue a Surety Bond *with every roll* of Congo Roofing.

These bonds give our customers a real, substantial guarantee *as good as a government bond.*

If the customer's own lawyer drew the guarantee he could not devise an instrument that would give any better protection.

It is because Congo is so tough, perfect and durable that the National Surety Company is willing to stand back of it. They know that we use the *best materials* and the *best methods* and that we watch and inspect every roll. Then we wrap it for domestic use just as carefully as if it were destined for Madagascar or Thibet, and you get perfect, undamaged rolls every inch of which you can use.

The man that buys Congo gets the most value for his money and *takes no chances.*

We will send you a copy of that guarantee on request—also a sample of Congo Roofing free.

UNITED ROOFING AND MFG. CO. Successor to Buchanan Foster Co.
553 WEST END TRUST BUILDING, PHILADELPHIA, PA.
CHICAGO SAN FRANCISCO

It is to your advantage to mention Farm and Fireside in writing to advertisers. Farm and Fireside folks get the very best attention.

EASTERN EDITION

ESTABLISHED 1877
The Illustrated Farm and Family Journal

24 NUMBERS
35 CENTS

LIBRARY
1909

Vol. XXXII. No. 16 Springfield, Ohio, May 25, 1909 Terms { 1 Year, 24 Numbers, 35 Cents. 4 Years, 96 Numbers, $1.00

A Farm-Sewage Disposal-Plant

In a circular letter sent out by the Commission on Country Life with a view to obtaining information as to the most urgent needs of the farmer, one of the questions asked was, "Are the sanitary conditions of the farms in your neighborhood satisfactory?" It would be interesting to know what per cent of the answers were in the affirmative. And also to know how many of such answers indicated a true state of such sanitary conditions.

Those who are familiar through personal knowledge and observation with the actual conditions on the farms in the East and West, North and South, know that the sanitary arrangements are far from being ideal, and that most of the sanitary conditions claimed are such by the courtesy of the name only.

To the lack of sanitary conditions on the farms may be due the fact that there is more ill health and a higher death-rate in the rural districts than in the crowded cities. Sanitation in the city is compulsory, made so by ordinances enforced by the board of health; on the farm the means and degree are wholly within the control of the individual and his inclination or knowledge of methods to provide such conditions.

Although it may be that in the majority of instances the farmer is not acquainted with simple and inexpensive means to provide proper sanitary arrangements for the farm home, it still remains a fact that the average farmer has been too lax regarding the important matter of sanitation about the home, particularly as it relates to the disposal of sewage. If the cities permitted such unsanitary conditions to exist as are found on the average farm, the death-rate would almost immediately increase to such an alarming degree that there would surely follow an exodus to the tall and uncut timber. The general health would be so far destroyed that the whole city would soon be under the scourge of a plague.

Intelligent Sanitation Promotes Health

It is a matter of common knowledge that the volume of contagious diseases in rural districts is greatly increased by a lack of sanitation about the farm-house, and that much general sickness is due directly to such neglect. Sanitation on the farm is being given more intelligent and detailed attention as the urgent need for it is being made more evident by experience and confirmatory statistics, and as easily-provided means are suggested to secure it.

The closet sewage of the farm is not the only source of infection. The kitchen slops and waste, under certain unfavorable conditions, cause quite as much trouble in this respect.

Probably the principal objection to the ordinary open or earth closet is in having it located too near the dwelling, the well or other source of water-supply. The average farm closet is generally more or less open and exposed, while very little, if any, attempt at all is made to use suitable disinfectants and deodorants. In such closets as this the billions upon billions of germs that breed every day have ready access to open air, which they pollute and make foul, and endanger the health and life of those who breathe it.

The neglected accumulation of kitchen waste alongside of or quite near by the house is allowed to decompose and rot, so that the bacteria-laden odors gain entrance to the living-rooms of the house whenever doors or windows are open. Those breathing this foul air do so constantly at the risk of their health and life.

The barrel-and-sled system of slop disposal is the one employed on the majority of farms where any system of disposal is employed at all. Here the barrel stands for days—for weeks in some cases—or at least until the vessel is full to running over with soured, foul and decomposing matter breeding millions of injurious bacteria to every square inch of surface. The results of such a "system" as this are worse than where the slop is thrown out on the ground, where the solids are generally picked up by the chickens while fresh, and the earth absorbs the active properties and destroys or neutralizes the effect of the germ-breeding liquids.

On a small per cent of farms the closet accumulation is disposed of by means of a box and sled, the contents of the box being sprinkled at intervals with lime or land-plaster and the night-soil being hauled and spread on the fields when convenient or necessary. Observation of this system as generally practised does not warrant the method being recommended, except, possibly, as being a degree better than not cleaning out the vault at all. The main objection is that the box is neglected because the care of it is an unpleasant chore, and so the conditions are allowed to become worse than where this method is not used at all.

A Practical System Must Be Installed

The only way to obviate all these troubles by practical means is to install some system of sewage disposal that will safely handle all of the closet and kitchen slops in a sanitary manner.

There are a number of means to this end. Some are complicated, requiring many expensive appliances, placing them beyond the appropriation that the average farmer feels that he can make for this purpose.

The system of sewage disposal par excellence is the septic tank. Of these, the forms, designs and arrangements amount to a score or more, the most of which are designed with the intent and purpose mainly of selling to the prospective user somebody's patent siphon, trap or other mechanical appliance at a price for each piece in excess of the cost of a practical tank such as may be built by the farmer with the materials at hand on the average farm.

In constructing a septic tank, one of the main considerations is to build one that, once in operation, will never have to be opened for cleaning, or stopped and emptied for the purpose of repairing or adjusting some delicate mechanism that forms a part of some of the mechanical arrangements. This last can be avoided by not using any mechanism. The way to obviate the necessity for disturbing the tank after starting is to build a severely simple plan of tank of indestructible material in a workmanlike manner, one that will go on doing its work for generations without further care or attention.

Simplicity and Perfection of Operation Are Desirable

The plan of septic tank shown in the accompanying illustration is at once simple and perfect in operation, automatic and positive in accomplishing the desired end.

In addition to its simplicity, it is the least expensive of any plan or arrangement yet devised or, probably, ever will be. Any farmer can construct a tank after the plan of drawing shown without having to employ skilled labor or purchase expensive material or mechanical devices.

Where the cost is not so much a consideration as the question of durability and permanence, the materials used are brick or stone or concrete, with a liberal use of cement to line the boxes inside and out. However, if available and enough cheaper to make their use desirable, heavy plank and timbers may be used, first treating all the lumber with some one of the wood preservatives to insure against decay.

When using wood construction the interior of the box should be sealed with a coat of cement. Perfect adhesion to the surface of the boards can be secured by nailing on ordinary plastering-lath, first perpendicularly, then horizontally, and laying on first a coat of cement with sand just moist enough to work freely, then after that had thoroughly set, a thin coat of pure Portland cement rather wet.

The writer knows of a tank built in this way that has been in use for a number of years that is as perfect now as when put up, and that has not required any attention.

Essentials of the Septic-Tank System

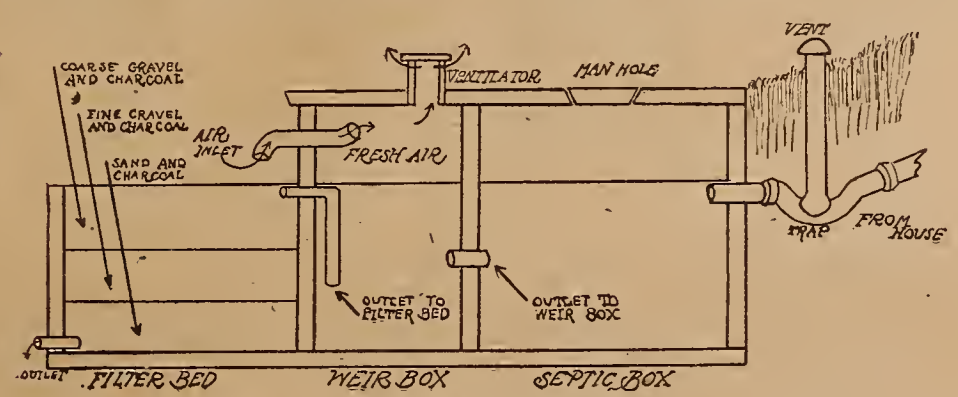
Before building the tank, the main essentials should be understood. They are: That the septic box, the first in the plan of the series of three, shall be absolutely air-tight and light-proof, and that it shall be large enough to hold the maximum of closet sewage and kitchen slops produced for a period of from thirty-six to forty-eight hours; that the weir box be at least half as large as the septic box, and the inlet and outlet be so adjusted that the contents shall not be disturbed by agitation, and that the filter-bed be large enough to take care of the flow from the weir box without overflowing.

The weir box may be supplied with fresh air by an inlet over the filter-bed and the ventilator in the top, for the purpose of freely releasing any chance odors; but as some tanks have been in operation a long time satisfactorily without this, it is not found to be absolutely necessary.

The drain or waste pipe should be provided, just outside the septic tank, as shown, with a trap and vent, to prevent odors or sewer-gas from returning to the house or other source of inlet.

The carrying or sewer pipe should be six or eight inch tile, to prevent clogging. This pipe should be of the sewer-tile type, having the collar-joints sealed with cement.

The outlet tile between boxes may be either four or six inch, set into the partitions on a level about twelve inches apart, at about the relative height shown in the illustration.



Plan of a Septic Tank

Size of Plant Required

A septic tank four by six by seven or eight feet will be large enough, ordinarily, to handle all the sewage produced by an average family. If the waste from the dairy-house is emptied into the tank, also, provision should be made for the increased flow.

To provide against some unusual condition that might some time render it necessary to enter the septic tank to repair or clean it out, a manhole should be built in the top.

The cover of the septic tank and weir box may be of plank, tightly sealed. If desired to cover with earth, to hide from view, cross timbers should be laid on heavy enough to sustain the added weight.

The filter-bed may be as large as the septic tank, with a row of outlets at the bottom, as shown. The filtering material should be, first, a layer one third the depth of the box, of fine sand and crushed charcoal, next a layer of coarse sand, fine gravel and medium-fine charcoal, and last a layer of coarse gravel and partly-broken charcoal.

Location of the Tank

This tank may be located at any distance from the buildings, providing, of course, that there is sufficient "fall" in the drain to carry the sewage without clogging. It will be a rare exception where a house is so situated that ample "fall" may not be found for drainage. To secure greater fall, in some cases the sanitary closet may be placed on the second floor, as in most city houses. The supply-water tank on most farms is high enough to furnish water for the "flush tank" to the sanitary closet trap-bowl.

The drain from the filter-bed is arranged in accordance with the manner of disposal of the liquid issuing from the tank. The usual outlet is into a stream through tile or an open ditch. Where the topography of the land will permit, the waste may be used for irrigation in a small way. It is perfectly safe, however, to allow it to run into the farm brook or other water-supply from which the cattle drink, for when the liquid issues

[CONCLUDED ON PAGE 2]

About the House and Barn

Things for the Practical Farmer to Make and Do About the Farm Home

An Ideal Granary

On a model farm the caring for and disposing of the crops are as much of an item as the producing of these crops.

I know of some farmers who lose fully one third of the crops raised each year by poor fencing, lack of barn room and having no crib or granary at all.

In the accompanying illustrations you will see a model, rat-proof crib, granary and cleaning-rooms, with store-room for seed-corn in the attic, and an assorting and grading room up-stairs in front.

The pillars are of concrete, eight by eight inches by two feet, the base being two feet square. The sills and joists are six by six inches; the flooring is of two-by-eight-inch hemlock, and is laid lengthways of the crib, to make easy shoveling of the grain.

The siding is of two-by-six-inch hemlock, and is nailed at the top to the plaits, which are of two-by-four-inch stuff, doubled, making the plaits four by four inches. The bottom of the siding is nailed into a rabbet two by four inches on the inside of the sills. The center nail tie is four by six inches, mortised into posts, and sets back two inches from the inside of the posts, which brings the inside of the siding flush with the inside of the posts.

The siding being nailed to the sills in this manner prevents any foothold for rats to gnaw in, and equalizes the weight of grain upon the whole side of the building. The gable ends and doors are made of novelty or drop siding.

There are doors leading from the grading-room up-stairs, into the granary and corn-cribs, also stairs leading from the cleaning-rooms to the grading-room above.

The corn-cribs are seven by fourteen by twenty-two feet; the granary is six by eight by twenty-two feet; the two rooms down-stairs, seven by seven by eight feet. The grading-room up-stairs is seven by eight by twenty feet. The driveway is eight by thirty feet. The dotted lines A in Fig. 2 show the position of the nail ties on each inside row of posts, which brings the floor of the grain-bins one and one half feet higher than the outside nail ties.

The dotted squares in Fig. 1 show the position of windows. B B in Fig. 1 are shelves for holding seed-corn. The dotted line C in Fig. 1 is a floor walk over the grain-bin.

The building is put up bird and rat proof. The sides and tops of the cribs are covered on the inside with wire screen of one-fourth-inch mesh. All windows are made secure by a covering of wire netting.

A building of this size is about right for a farm of two hundred to four hundred acres where an assortment of grains is grown and fed to stock. The size may be increased or diminished, but built in these proportions, twenty-two by thirty feet and sixteen feet high to the eaves.

The roof is of A No. 1 red cedar shingles, the butts of which are dipped in shingle-stain, making a roof that will last fifty years without leaking.

Bill of Material Required for the Granary

20 posts 6 by 6 inches by 14 feet.
8 sills 6 by 6 inches by 16 feet.
16 nail ties 4 by 6 inches by 7 feet 6 inches.
10 sills 6 by 6 inches by 7 feet.
5 sills 6 by 6 inches by 9 feet.
15 plaits 2 by 4 inches by 16 feet.
34 rafters 2 by 6 inches by 16 feet.
3500 feet hemlock siding 2 by 6 inches by 14 feet.
320 feet hemlock siding 2 by 6 inches by 16 feet.
1320 feet hemlock flooring 2 by 8 inches by 16 feet.
9000 A No. 1 red cedar shingles.
1000 feet common flooring for sheeting.
600 feet good flooring for partitions, grain-chutes and flooring.
320 feet novelty siding for gables and doors.
3 two-sash windows 2 by 3 feet.
2 two-sash windows 3 by 4 feet, for gables.
2 two-sash windows 2 by 4 feet.
50 pounds three-penny nails.
100 pounds eight-penny nails.
200 pounds sixteen-penny nails.
4000 square feet wire netting, one-fourth-inch mesh.
25 pounds staples.
6 pairs 10-inch strap hinges.
4 pairs 18-inch strap hinges.

Carpentering and material at present prices with us make the cost about four hundred and fifty dollars.

Material for Concrete

5 yards coarse gravel or broken stone.
2 yards sharp sand.
5 barrels Portland cement.

At an additional expense of about fifty dollars the outside may be dressed and painted nicely, which will add much to the appearance of the building and make it more serviceable.

J. Wesley Griffin.

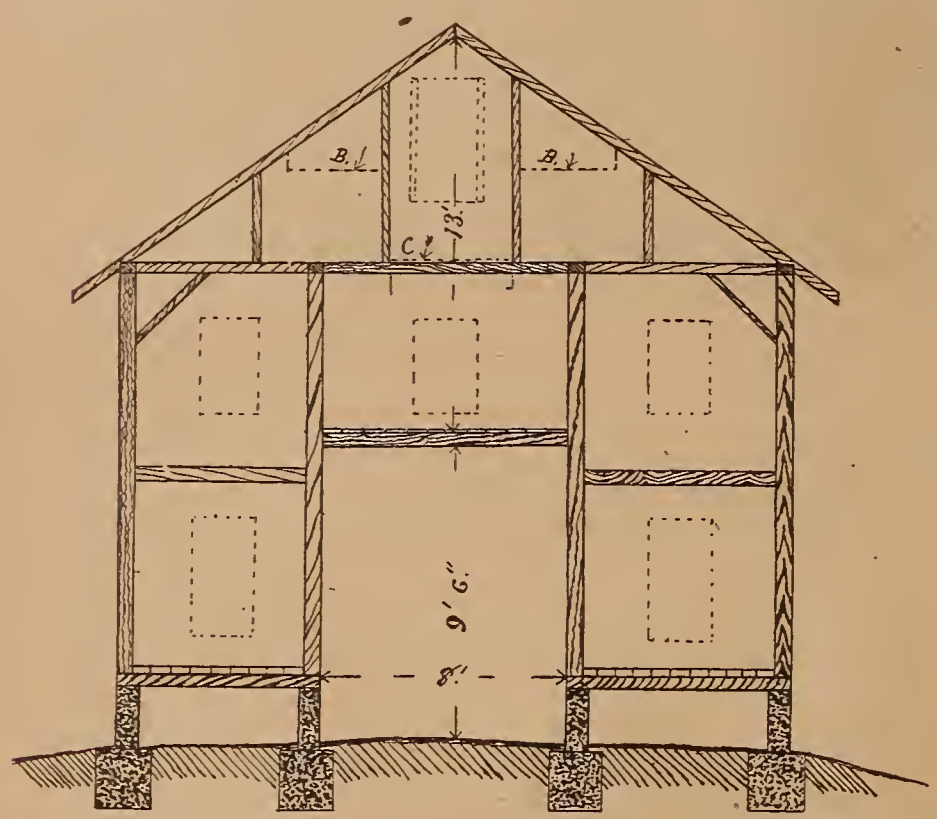


Fig. 1—End Elevation Showing Position of Windows, Seed-Corn Shelves, Etc.

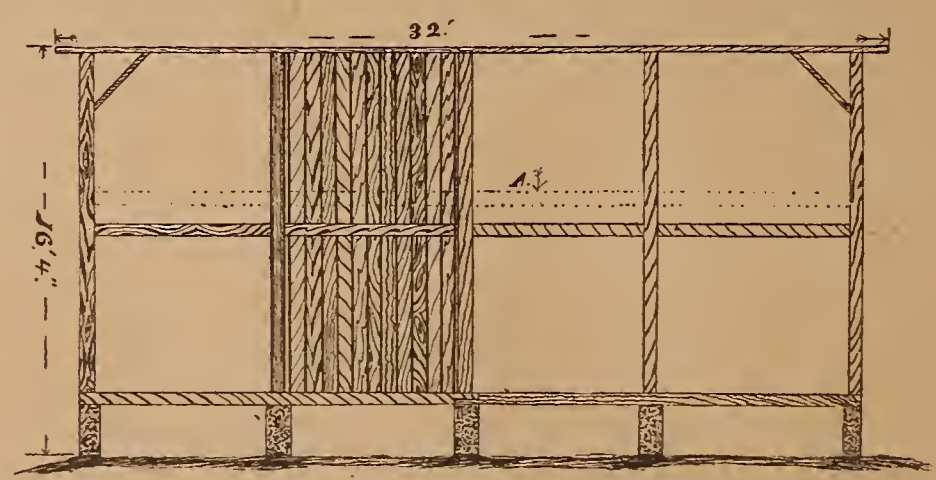


Fig. 2—Side Elevation Showing the Manner of Placing the Siding

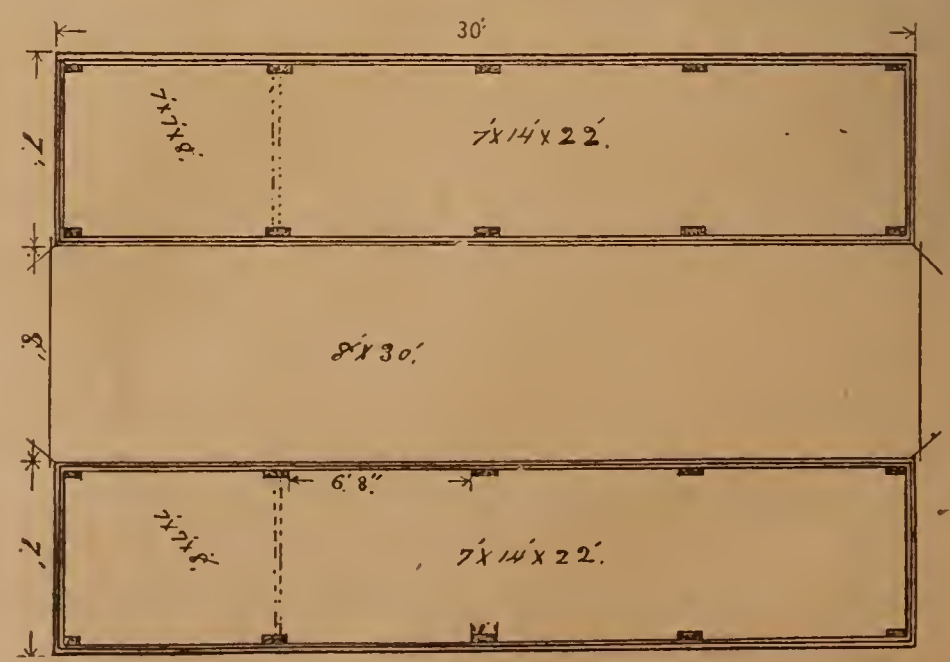


Fig. 3—Ground Plan of Granary

The farmer is in business for his health—and the health of his fellow-men. Some people are altogether in business for their wealth

W. J. B.

Farmer Philosophy

When the wood-box in the kitchen is full, Willie smiles—and so does his mother.

You can always get what you want if you want it badly enough to get about getting it.

A good horse well groomed, with a carriage to suit, is about as attractive as a highly-finished auto.

Where agriculture is taught in the schools the farm is seen by the boy and girl in the proper light.

It is well that we do not tell others of our greatness, and that we do not allow others to tell us about it.

What the wise farmer thinks over by the fireside in winter is what he works out in the field in summer.

A hungry hog will eat all the corn that is thrown in the dirt at its feet, and then eat the dirt that smells like corn.

The stable is a reception-room in which the farmer should feel at home, and the stock should be made to feel so.

A farmer is a man who devotes part of his time to raising a crop, and the other part to selling what he has raised.

W. J. Burtscher.

The Old Straw Pile

What will you do with the old straw pile that is beginning to rot down? "I'll burn it up," I imagine I hear you answer. "That is the easiest way to get rid of it, for stock won't eat it, and it is no longer a protection for animals in the winter, or a fit place for hogs to sleep."

Burning a straw pile may be the quickest way to get rid of it, but not the most profitable. There are a number of ways to utilize an old straw rick to an advantage. First, if there are some washed places about the farm—and these are found on most farms of any size—drive some stakes down at intervals along the draw, and haul a part of the old straw pile and dump it in above the stakes. Throw over it some brush or rocks, and watch the wash fill up when the rains come.

Next, the old straw rick may be scattered over a field of thin land and plowed under for the making of humus. Wet and rotting straw makes a good fertilizer, whether plowed under or worked into the surface-soil, and the richness will be taken up by the growing vegetation.

Part of the old straw pile may be utilized for mulching young trees, potatoes or strawberries. During the droughty summer the life of the young trees is preserved by the application of a good mulch. Nothing is better for this than rotting straw. Some potato-growers raise them successfully by covering the entire patch with straw. This keeps down the weeds and conserves the moisture, thus bringing the crop to perfection. For keeping ripening strawberries from coming in contact with the earth, there is nothing better than a liberal application of straw between the rows.

Lastly, the old straw pile may be used to bed horses, milch cows and hogs. Every farmer knows its value here.

W. D. Neale.

A Farm-Sewage Disposal-Plant

[continued from page 1]

from the tank it is ninety-eight per cent pure. Immediately it comes in contact with the air, however, the remaining two per cent of impurities is removed, and it becomes as clean and pure as spring-water, fit for use in watering stock or for drinking purposes.

The process that accomplishes this seemingly inconceivable feat of transforming the foul mass of sewage and effete matter into crystal-pure water is septic destruction, and is very simple. In fact, it is so simple and effective that it does the work without any assistance, chemical or mechanical. Its self-generated chemical action stands in the same relation to chemistry that perpetual motion would to power.

The process might be likened to the battle of the Kilkenny cats that fought among themselves until they were all dead. The bacteria developed in the light-proof, air-tight septic tank destroy one another almost as rapidly as developed, until there are no traces of solids left.

When the sewage from the closet enters the septic tank it rises to the surface, being lighter than water. Being closely confined, and with the fresh air and light, that would tend to purity and dissolve the germs, wholly excluded, the growth of bacteria is exceedingly rapid and multitudinous.

As the sewage is converted under these conditions into bacteria, they prey upon each other, and so accomplish their own destruction within twenty-four hours. Being condensed under the atmospherical conditions obtained, these solids are converted into liquid, which, as it becomes less and less foul, gradually settles toward the bottom of the tank, eventually passing through the openings into the weir box.

The purpose of the weir box is mostly to arrest any active current and to prevent any possible agitation of the water on its way to the filter. When the water reaches the weir box it is practically pure, especially if ventilation is provided as shown in the drawing.

Many of these tanks have been built in the West on a large scale and are now successfully handling the entire sewage of towns and public and private institutions. There is only one such plant known to the writer which has not disposed of the sewage perfectly, and that is used by a large paper-mill where much of the waste is rags, and this tank requires cleaning out once or twice a year.

R. M. Winans.

Around the Farm

Items of Interest and Value to the Progressive Farmer

The Home of a Successful Farmer

Mr. C. A. Mulany, the owner of Highland stock-farm, Walworth County, Wisconsin, recently marketed in Burlington, Wisconsin, twenty-nine head of grade Durham steers and fifty full-blood Poland-China and Duroc fall pigs. For this product of his two-hundred-and-eight-acre farm this feeder received in cash the sum of twenty-one hundred and sixty-five dollars.

When Mr. Mulany was asked how he fitted his stock for the market, he said that he had the steers on feed for three months. They were fed bundle-corn and good clover hay for the first two weeks, then bundle-corn once a day and chopped ear-corn once a day for four weeks, and then shelled corn until sold, having access until the last to all of the clover hay they would eat. They had, while feeding, the run of a yard, and they were allowed to run loose in the barn with the door open, save when it stormed. They had access to an abundance of pure water and to salt whenever they were inclined to lick it. Both barn and yard were constantly kept well bedded. Mr. Mulany says that he does not always follow the same plan; he changes according to the age of the animals to be fed. These steers were coming two years old.

This Badger stock-feeder aims to raise two crops a year of pigs of the breeds previously mentioned. He allows the pigs to run with the steers, his experience being that that is the way much of the profit is realized, the waste being utilized. He believes they do better in this way than any other he has tried.

Mr. Mulany has one of the best-fenced and best-kept farms in Walworth County, and lives in one of the most convenient and substantial farm-houses in all Badgerdom; it is heated by furnace, supplied with water, hot and cold, and is illuminated by acetylene gas.

It will be noticed that the barn arrangement, is such that most of the buildings are connected, that they are architecturally attractive, and that paint covers every inch of the structures.

Mr. Mulany is known as a farmer who farms with his brains as well as with his hands. J. L. Graff.

The Barns on Highland Stock-Farm

The Home on Highland Stock-Farm

The Effects of the Corn-Root Aphis

Early in April, 1908, a boy reader of Farm and Fireside wrote me that his father had given him the use of five acres of land, and he desired to ask me what I thought would be the most profitable crop for him to grow on it. I suggested corn, as he lives in a good corn section. Near the middle of June he wrote me that he guessed his corn crop was going to be a failure. He said the neighbors told him the "midge" had attacked it, and as a consequence the crop would be a slim one.

As I was going through that section in about a week, I wrote him that I would visit the field and see if I could tell him what was the matter. He met me and took me to the field. The land was moderately rolling, the soil ordinary black loam underlaid with clay, and was what one would call extra-good corn land. The boy stated that the land had been in corn four years in succession, and had produced only a light crop the previous season. He said his father had given him the use of the land five years, and he had hoped to make a nice thing from it, but he feared he was going to be disappointed. He had bought enough manure to dress nearly an acre in one corner of the field, and on this the corn looked fairly well, but the plants on all the rest of the tract were slim and sickly-looking.

Before going to the place, I had suspected that the soil might be acid, and wrote the boy to bury a few pieces of litmus-paper in various parts of the field. We took these up, and found that there was not enough acid to do any harm, so we proceeded to carefully dig up a few hills and examine the roots for corn-root aphis.

On the roots of the first hill we found fifty-two aphids, with plenty of ant nurses to care for them. We dug up fifty hills in different parts of the field, and found from eighteen to over sixty aphids on the roots. The strongest plants had the smallest number of aphids, and the sickliest had the largest number. There were hundreds of nests of the corn-field ant in the field, and it was very plain that there was no chance of making a crop, or even half a crop on the land.

On the manured corner we found quite a number of aphids on the roots of the plants, though they were not so numerous as in the other parts of the field, and the plants being much stronger, the injury wrought by the pests was not so great, and the outlook for a fair yield was good. The manure had been obtained from a livery-stable where the horses were well fed on grain and the best hay obtainable, and it had been applied liberally.

As there was no possibility of making a crop of corn on the unmanured part of the tract, I suggested to the boy that he plow it up, pulverize it well, and sow it to cow-peas, and when the first pods began to ripen, to turn the entire growth under and leave it until the following spring. Then he should plow it as early as it would work fairly well, and let it lie until planting-time, then plow again, pulverize thoroughly, and plant to corn, and cultivate as soon as the plants were fairly up, and every week thereafter, if possible, until the plants were too high to pass under the cultivator. This constant cultivation was more to break up the ants' nests than anything else, and so disturb them that they could not give the aphids the care necessary for them to thrive and increase as they would in undisturbed soil.

A good growth of cow-peas was secured, and the vines were turned under when the first pods were ripening. It was necessary to use a large plow with a sharp rolling cutter attached, to get the growth under. As the land was in good plowing condition early in April, it was plowed. It will be plowed a second time just before planting, and the boy informs me that it will be in splendid condition for growing a good crop.

The corner of the tract that was manured yielded at the rate of forty-eight bushels to the acre. It was cultivated every week—twice one week—until too high to pass under the cultivator. After the first cultivation the shovels were sent down five to six inches until the plants were a full foot high. This deep cultivation was for the purpose of disturbing the ants as much as possible, and evidently it proved quite effective. On other parts of the farm, where a three-year rotation was practised, a very good crop of corn was raised, but in one corner that had been in corn two years the crop was a very light one—about twenty bushels to the acre.

The corn-grower has been fighting weeds and weather for years, and now has tools that enable him to do effective work against weeds and grass, and also when unfavorable weather has gotten the land in bad shape for cultivation. But he must now keep in mind the fact that he has the corn-root aphis to deal with, and he must so conduct his operations as to do effective work against this underground pest. Rotation of crops and thorough cultivation are his most effective weapons. It is not a difficult matter to fight these and other corn pests if the soil is sufficiently rich in plant-food to induce a vigorous plant growth, but if the soil is farmed to death, or naturally poor, the fight will be almost a hopeless one.

It is just possible that the rapid increase of these corn pests will have the effect of decreasing the size of the farms in the corn belt, and also to limit robber landlordism. If such is the case, they will not be an unmixed evil. It will not require more labor to produce a full crop of corn, but more intelligent management. Only in very favorable years in the past has it been possible to produce a full crop, because farmers were farming more land than they could properly till. If insect pests compel them to properly till and care for the land to get a crop at all, they will have to limit the number of acres to their force, and they will aim to till the soil in such a manner as to obtain a maximum yield. The landlord who farms by proxy will be obliged to give his land more rest and more fertilizer, and it is to be hoped that this will cut his profits to such an extent that he will be glad to let part of his holdings go to men who will live on them and build up homes of their own. F. G.

Growing Cow-Peas

Last year, about the middle of May, I sowed ten acres of cow-peas on land that had previously been an old pasture. I plowed the land about seven inches deep, disked it until I had a good seed-bed, then leveled it with a drag, and sowed one bushel of peas broadcast to the acre, harrowed them in thoroughly, and then rolled the ground.

From a part of this piece I sold six tons of hay at eight dollars a ton; from the balance I threshed forty-six bushels of clean peas, and had about seven tons of straw.

Cattle are very fond of cow-peas, and the experience of others as well as my own shows that the milk is much increased in quantity by feeding them. I do not believe any better feed can be had for sheep. Caution, however, must be used not to overfeed where they are fed pods and all. I find that they prepare the ground for fall seeding with timothy or clover better than any other crop. A neighbor told me that in ten years he had not failed to get a catch following cow-peas.

The quantity of seed to sow to the acre must be varied according to the quality of the land. On heavy, rich soil, drilled in, one half bushel to the acre is sufficient, while on light soil, sown broadcast, one and one fourth bushels are not too much. An average yield is ten bushels to the acre, while as high as twenty bushels are sometimes secured. They are remarkably free from enemies; the pea-weevil is the only one that is worth mentioning. The beetle hatching out of the seed deposits eggs in the pod, where the larvæ burrow into the pea. Where the seed is seen to be thus affected the sowing had best be delayed until late.

Wm. H. Underwood.

Getting an Early Start With Corn and Tomatoes

Last winter I received a letter from a Farm and Fireside reader in North Dakota. I will quote part of it, to show what an ingenious man can do. Before going to Dakota he was a gardener and had learned all about pushing plants along. He writes:

"They say this is not a corn country, and I guess they are about right. I have an open well thirty feet deep, and there is three feet of water in it all the time, and that water froze last night till I had to use a crowbar on the end of a rope to break it. But I raised some corn last year just the same. Spring opens up here with a 'plop.' That is all at once. I had bought a peck of a very early variety of corn, and had my weather-eye open for spring. My ground was plowed last fall, five acres, and as soon as the frost was out I plowed it again, marked it both ways, like we used to in the old times in Ohio, having the checks three feet six inches apart. As soon as the soil felt a little bit warm I put my corn in a shallow box, wet it with warm water, covered it with a couple of wet gunny-sacks, and set it by the stove. In three days it was nicely sprouted. My boy dropped three of the sprouted grains in each check and I immediately covered it one to one and one half inches deep with my hoe.

"That corn wasted no time in getting up, but after it got a little over an inch high a frost nipped it, but it came again, and this time it went. But the night the frost came I was sure it would freeze, so I took my hoe and covered about half an acre of it with soil. After the spell, which lasted two days and nights, was over, I uncovered it, and it was all right. You ought to have seen that stuff grow after it got under way. It made about thirty-seven bushels an acre, and I can tell you it came in handy for feed. Oats and barley and such things are all right and make good feed, but a little corn is the stuff to finish up the pork, warm the horses and make the hens lay in cold weather.

"There was not much difference between that I covered and that which was frosted, only some of the latter plants got caught in the frosted part and had to be loosened to grow up straight. Uncovering the plants was much more difficult than covering, but I used a garden-rake and quickly straightened them up.

"If we make corn here we have to be prompt. We can't put off our planting a couple of weeks if the weather does not happen to be just right. A neighbor of mine is from down East, and he likes sweet corn better than any man I ever saw, and he grows lots of it. His first plantings are always sprouted. Some of it is grown two or more inches high in pots when he sets it out, and he always has the best luck with it. Sweet corn and tomatoes are his pet vegetables, and he always grows lots of them. I have seen him setting out his tomatoes sometimes when they were nearly a foot high and almost ready to bloom. He had started them in five-inch pots."

There are lots more people who are fond of sweet corn and tomatoes, and they generally manage to get ahead of ordinary gardeners. I have seen several of these early birds setting out sweet corn that was three inches high, and tomatoes ready to begin blooming. One man I know sets a little square of sweet corn very early. He sets the plants well down in the ground and has a lot of old empty fruit-cans close by to pop over the plants when a frost threatens. He has had his plants frosted under the cans, but they always came out all right, shooting up rapidly again. Two farmers I know sprout their field-corn whenever they find it necessary to replant hills here and there. They tell me they gain five to seven days by so doing.

Fred Grundy.

FOUND OUT

A Trained Nurse Discovered Its Effect

No one is in better position to know the value of food and drink than a trained nurse.

Speaking of coffee, a nurse of Wilkes Barre, Pa., writes: "I used to drink strong coffee myself, and suffered greatly from headaches and indigestion.

"While on a visit to my brothers I had a good chance to try Postum, for they drank it altogether in place of ordinary coffee. After using Postum two weeks I found I was much benefited and finally my headaches disappeared and also the indigestion.

"Naturally I have since used Postum among my patients, and have noticed a marked benefit where coffee has been left off and Postum used.

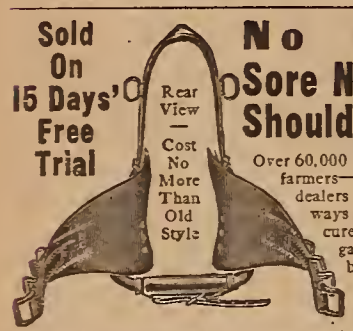
"I observe a curious fact about Postum used among mothers. It greatly helps the flow of milk in cases where coffee is inclined to dry it up, and where tea causes nervousness.

"I find trouble in getting servants to make Postum properly. They most always serve it before it has been boiled long enough. It should be boiled 15 or 20 minutes after boiling begins and served with cream, then it is certainly a delicious beverage."

Read "The Road to Wellville," in pkgs. "There's a Reason."

Ever read the above letter? A new one appears from time to time. They are genuine, true, and full of human interest.

Sold On 15 Days' Free Trial



No More Sore Necks or Shoulders

Over 60,000 now in use by farmers—Over 4,500 dealers sell them. Always guaranteed to cure the worst galls, bruises or bunches while your horse works—15 days' trial or money back without question. Keep your horses well with

WHIPPLE HUMANE HORSE COLLARS

Now, hot weather is here, don't use Cruel "Sweat-Pads" and old-style, misfit collars which only make your horses' shoulders worse—Just try these collars—No risk to you—Fit any horse—No pressure on shoulder-blade or bones where sores come—No friction on neck or shoulders—45 sq. in. pulling surface on each shoulder, properly distributed—only 10 sq. in. on other collars. Get our interesting **Free Book.** Thousands of testimonials of users and experience of 3 years proves this the greatest horse collar ever made—You'll say so yourself. Write nearest factory.

HUMANE HORSE COLLAR CO.
1629 Lowe Street, Chicago Heights, Illinois
1978 South 13th Street, Omaha, Nebraska

The best Advertising the Goodhue Windmill can have in any locality is a heavy wind storm

BECAUSE, although easy to erect, it is hard for the wind to down—it has a governor that works perfectly in all kinds of weather—the wheel has double arms of heavy channel steel giving more than double strength—it has a practically noiseless brake—it is erected on a tower guaranteed against CYCLONES AND TORNADOES—and because in every way

Goodhue Windmills are Good Mills

So sure are we of our ground, that, for a nominal fee, we will insure the complete outfit, mill and tower, for five years, against anything and everything. Write today for free wind mill book. APPLETON MFG. CO.
9 Fargo Street, Batavia, Ill., U. S. A.

$50 TO $300 SAVED

We are manufacturers, not merchants. Save dealers, jobbers and catalog house profit. I'll save you from $50 to $300 on my High Grade Standard Gasoline Engines from 2 to 22-H.-P.—Price direct to you lower than dealers or jobbers have to pay for similar engines in carload lots for spot cash.

GALLOWAY

Price and quality speak for themselves and you are to be the sole judge. Sell your poorest horse and buy a **5-H.-P. only $119.50**

Direct From My Factory on 30 Days' Free Trial. Satisfaction or money back. Write for special proposition. All you pay me is for raw material, labor and one small profit. Send for my big BOOK FREE.

Wm. Galloway, Pres.
Wm. Galloway Co.
715 Galloway Station
Waterloo, Iowa

I know where many new stores are needed

Write me today for particulars regarding new store locations—also I'll be glad to tell you about a retail line that will pay maximum profits on a minimum investment. EDWARD B. MOON, 9 W. Water St., Chicago, Ill.

WHEELS, FREIGHT PAID $8.75

for 4 Buggy Wheels, Steel Tires. With Rubber Tires, $15.75. 1 m/g. wheels ¾ to 4 in. tread. Buggy Tops $8.50, Shafts $2.00. Top Buggies $33, Harness $5. Learn how to buy direct. Catalogue Free. Repair Wheels, $3.50. Wagon Umbrella FREE. F F 3008, Cincinnati, O.

PATENT SENSE and PATENTS THAT PROTECT yield our clients enormous profits. Write us for PROOF. Inventors lose *millions* through *worthless* patents. R. S. & A. B. LACEY. Dept. 28-38, Washington, D. C. *Estab. 1869.*

Importance of Commercial Fertilizers

They Are Often a Simple Necessity as Chemical Plant-Foods

IN MANY sections of this country the soils are deficient in the three elements, nitrogen, phosphoric acid and potash in a sufficiently available form to give the maximum yield of any particular crop.

These three elements have been removed from the soil by the sale of grain, live stock, milk, fruits, vegetables and a careless system of soil management, until many of the naturally-fertile soils have been depleted of the elements on which their value depends. One has but to study the subject a short time before he will realize the magnitude of the loss of fertility that is annually taking place on our American farms.

The manure and farm fertilizers represent the natural return to the soil; but this work is rudely interrupted when the products are removed from the farm, and under the conditions of modern farming there is a steady drain upon the fertility of the soil that must be replaced from other sources. This is the condition that our older agricultural states are facing at the present time. To replace this heavy drain of commerce upon the natural fertility of our soils there are two sources to which we must look for our supply of these three elements, nitrogen, phosphoric acid and potash. These sources are of two distinct kinds and should be treated separately and also in their relation to each other.

From Whence Come These Elements?

The first source is the soil and atmosphere, and what we need to understand is that there are certain elements of fertility in the soil and atmosphere that are to be regarded as so much potential energy, a portion of which, by natural processes and cultivation, may be converted into active energy. We must seek to adopt such methods as will conserve this stored-up energy in the soil, except such as is necessary to use from year to year in crop production. We have also learned during recent years that there are other than mere chemical changes going on in our soils. There are bacterial changes that play an important part in bringing these essentials of plant-food into a condition available to nourish the growing plants, and we must shape our methods of cultivation so as to get the best advantage of these bacterial changes.

This can be done by the growing to a greater extent of what are known as leguminous crops, such as alfalfa, clover, cow-peas, vetches and soy-beans, which have the power of appropriating nitrogen from the atmosphere and depositing it in the soil in a form available for other crops that must depend upon their supply of nitrogen from the soil. These sources of plant-food are the most essential to a correct and profitable agriculture.

The Most Expensive Element

Nitrogen is the most expensive element of fertility, and yet it is the one element that we can secure without buying it in a chemical form. So from year to year a soil under proper cultivation may store up nitrogen from natural sources, and thus, if not robbed by the removing of crops, increase in fertility.

Nitrogen must be carefully guarded by intelligent and scientific farming if the natural sources are made to save the expense of buying this costly element. The phosphoric acid and potash cannot be kept supplied continuously to the soil, like nitrogen, and a field once exhausted of them cannot reinforce itself; but most soils contain considerable stores of these two elements in fixed and slowly available forms to gradually replace the losses of the more available kinds. Neither is there so much natural cause for loss except in the removal of crops, though soil washing and drainage may transfer these elements from one place to another. Now we will consider the second source of supply, the commercial fertilizer, which alone must supply the drains of commerce. When we study the questions of economy in buying fertilizers, there are many things to be taken into account other than the original cost of the article. This is especially true in the buying of nitrogen, for it comes in various combinations, some of which are immediately available for the plants' use, while other forms are slow in their action and cannot be depended upon to render immediate service. The common sources of nitrogen at the present time are nitrate of soda, ammonium sulphate, dried blood, cotton-seed meal, tankage, dried ground fish and guano. I might mention nitrate of potash, but that form is out of the question as an economical source of this element.

The Standard Nitrogen Fertilizer

Nitrate of soda is the one form that can be depended upon for the best results. It is at once available to the plants as soon as it goes into a solution. All of the other materials must go through certain chemical changes before they are made available for use. The nitrate of soda is the standard nitrogen fertilizer. All who have given it a fair trial know how it will act and have seen immediate results from its action.

The present commercial value of nitrate of soda is about sixty dollars a ton, making the cost of a pound of nitrogen from this source about twenty cents. The cost of sulphate of ammonia containing twenty per cent nitrogen is seventy-five dollars, making the cost of nitrogen from this source about eighteen cents a pound. While ammonium sulphate is a valuable fertilizer and can be used for many purposes with entire satisfaction, yet its continual use on the same soil has a tendency to produce soil acidity, and it will be necessary to use lime freely to correct this condition of the soil. The nitrogen from this source is a very economical plant-food and for many crops it is an excellent fertilizer. It is not safe to mix this form of nitrogen with lime or any material that contains lime, consequently it should never be mixed with ashes or basic slag, but it can be safely mixed with muriate of potash and sulphate of potash or with acid phosphate.

Dried blood containing eight per cent of nitrogen has a commercial value of about thirty-eight dollars a ton, making the cost of a pound of nitrogen from that source about twenty-four cents. This form costs considerable more than the same amount of nitrogen in the form of nitrate of soda or ammonium sulphate. It is rather high-priced nitrogen to use for general agricultural purposes.

Ground-fish fertilizer can be purchased in certain localities at about thirty-eight dollars a ton, and this fertilizer contains nine and one half per cent nitrogen and six per cent phosphoric acid. In this form the nitrogen costs twenty cents a pound, and in every ton there is about one hundred and twenty-five pounds of phosphoric acid in a form unavailable for immediate use, yet possessing more or less value, during the course of the three or four year rotation of crops. This is an economical source of nitrogen wherever it can be purchased at that price.

Tankage is another common source of nitrogen, but just what this is would be very difficult to explain. It is composed of the refuse from the packing-houses and a little of everything goes into the mixture. It contains about 5.8 per cent of nitrogen and eleven to twelve per cent of phosphoric acid, and has a commercial value of about thirty-one dollars a ton. Some of the expert fertilizer authorities estimate the value of the phosphoric acid in a ton of this tankage at about five dollars, which would leave the cost of nitrogen about twenty-two cents a pound. At those figures it is not the most economical source of nitrogen.

After considering these various sources we find that a pound of nitrogen can be purchased cheaper in the form of ammonium sulphate than in any other form. Next to this comes nitrate of soda. Owing to the availability of nitrate of soda and its adaptability for being safely mixed with other fertilizers without deterioration, it is considered the standard source of nitrogen.

Clover as a Source of Nitrogen

After studying the natural sources of nitrogen and the price of it in the commercial forms, let us investigate the cost of nitrogen in plowing under a crop of clover that will cut two tons of hay to the acre. The clover hay will contain eighty pounds of nitrogen, and the stubble and roots eighty pounds, making one hundred and sixty pounds of nitrogen, worth at the lowest commercial value twenty cents a pound, or thirty-two dollars. Of course the plowing under of two tons of clover hay worth at least ten dollars a ton would seem like a direct loss of twenty dollars an acre. The question is, Can we for general farm crops afford to plow under this amount of clover as a manure? This brings us down to the question of live-stock feeding, by which means we should be able to realize the market value from our clover hay, and still, by the careful saving and application of all the manure, have at least seventy-five per cent of the fertilizing value of the two tons of clover hay to return to the soil. This proves to us that there are very few types of farming where a farmer can afford to ignore live-stock feeding and depend upon clover and commercial nitrogen to maintain the fertility of his fields. Thus we see that when the legumes are grown and fed to live stock they have a twofold value outside of their feeding value.

The productivity of a soil depends upon its texture, or amount of humus that it contains. A soil may be ever so rich in nitrogen, phosphoric acid and potash, yet the plants will not thrive unless the texture is such that the tiny rootlets may reach out in search of food. We must improve the physical condition of our soils, so that they will be adapted to the reception and economy of these fertilizers before we can make their use profitable in general agriculture.

Sources of Potash and Phosphoric Acid

The principal source of potash is the potash salts, which are secured from mines. Another source is cotton-hulls, tobacco-stems and wood-ashes. Of the grades of commercial potash kainite contains about twelve per cent potash and more or less common salt. Muriate is another trade name, and sulphate is another form of potash that has been treated as it comes from the mines. For orchard-fertilizing purposes muriate is extensively used, and for general farm crops sulphate of potash is considered worth about one fifth more than the muriate.

The next element, phosphoric acid, is one of great importance, for the reason that it is deficient in many soils where the supply of nitrogen and phosphoric acid are adequate. The common sources of acid phosphate are finely-ground phosphoric rock that has been treated with sulphuric acid to dissolve a portion of the lime and render the phosphoric acid available for plant-food. Another source is finely-ground fish-bone and tankage, and still another is the finely-ground, untreated rock which is commonly used with stable manure, which has the same effect upon the untreated rock, or floats, as the sulphuric acid with which it is treated for commercial uses. When this ground rock is used it should be used with manure and applied to soil that contains an abundance of humus. In this way during the three or four years of the ordinary rotation much of this phosphoric acid will become available. It also has the power of fixing the nitrogen in the manure and saving it until needed by the growing crops. The trade values of available phosphoric acid vary but little. Some agriculturists prefer one form and some another, but the chief value depends upon the amount of available phosphoric acid each contains. The untreated rock is considerably cheaper, and for that reason may be economically and effectively used with stable manure.

Economic Principles Involved

It is not my purpose to lay down hard and fast rules for the use of these commercial fertilizers, but rather to try to point out how necessary it is that we use them economically and effectively. I take it for granted that we are all wise enough to adopt a process when we see that it is to our advantage. What I do wish to impress upon the minds of the readers is the necessity for better tillage, a shorter rotation of crops, growing clover or some legume every third year, the feeding of more and better live stock, and the liberal use of potash and phosphoric acid to supply the legumes with the mineral elements of plant-food.

What crops to grow and the rotation to follow must be settled by the farmer himself; but one thing is evident, that the man who puts his greatest efforts into the growing of clover and other legumes, and feeding good live stock, will always have more money than the man who depends upon buying a complete fertilizer to merely stimulate the growing crops. Rightly used, these fertilizers and chemical plant-foods are excellent soil-improvers, but their indiscriminate use will lead to soil ruin faster than any system of cropping that can be followed. The best farmers depend upon the legumes and natural sources for nitrogen (the most expensive element), and buy incomplete fertilizers rich in potash and phosphoric acid, or the element they find their soil needs, and depend upon these mineral fertilizers to assist the legumes in doing their work as nitrogen-gatherers. There are some special crops that will pay large enough returns to justify the purchase of high-grade complete fertilizers, but the average farm crop will not pay large enough returns to pay for the increased cost of using an expensive fertilizer.

W. MILTON KELLY.

Review of the Farm Press

What Others Are Saying About Important Farm Matters

Fitting Soil for Fertilizers

We often receive questions from farmers who ask what fertilizers they shall use for certain crops. Usually very little is said about the character of the soil or its condition. People seem to think that the use of chemicals is the main thing—the only thing they need consider.

In a large proportion of cases farmers do not receive the full value of the chemicals because the soil is not fit. Very often it is not well drained. A soil that is wet and soggy cannot yield a full crop, no matter how much fertilizer you dump into it. Another essential in fertilizer farming is a soil well filled with organic matter or humus.

The Eastern farmers have spent millions of dollars in trying to learn how to use chemicals with economy. Many of them have not learned yet. Those who have come nearest to it know that the soil must be in proper condition, open and mellow, and well filled with humus before the chemicals can supply their plant-food properly. This thorough preparation of the soil is even more necessary for chemicals than for stable manure. There are also many soils so sour that ordinary crops will not respond to chemical fertilizers. Manure is more effective on these soils, because the manure is alkaline and helps sweeten the soil.

Those who use chemicals, and especially those who are beginning their use, must remember that they cannot hope for full returns unless the soil is well drained, mellow and open. There are, no doubt, many farms which need drainage more than they need chemicals.—The Rural New-Yorker.

Too Much Fertilizing Causes Loss by Leaching

It has been shown by a large number of determinations in the department of soils of the College of Agriculture of the University of Wisconsin that where land is cropped continuously under a moderate stage of fertility, very little is lost from the soil by leaching, while on the land maintained in a condition of excessive fertility, as required by special crops, very large losses occur.

The remedy for all this will unquestionably be found in an adoption of a modification of our system of farming in which we maintain on the same land a given amount of stock, produce a certain amount of the cereals, and grow truck crops, avoiding excessive manuring which produces an unbalanced condition, causing a serious loss of one or more elements.

In other words, the farmer must learn what the manufacturer has already learned, that he cannot devote his energies to the production of the main produce when that causes serious loss in the by-products. He must look at the farm not only from the standpoint of the labor involved, but from the standpoint of the supply of essential elements constituting the fertility of his soil.—Wisconsin University Press Bulletin.

Internal Parasites in Hogs

From personal experience we are of the opinion that the chief cause of the greatest mortality among our hogs is internal worms, or parasites, of one kind or another, but chiefly the large thorn-headed worm which infests the bowels. Worms are, of course, passed from the bowels of the affected animal onto the ground, and are picked up in an immature stage by other hogs.

In the case of the large thorn-headed worm, it is claimed by authorities that the egg is taken into the body of the larva, or grub, of the "June-bug," and that the hog gets it by eating the grub which it finds in moist places, as in the neighborhood of pools or ponds of stagnant water. Once a hog-pasture becomes infected with worms, therefore, it is difficult to get rid of them, unless the lot is plowed up or placed in cultivation, and the water-supply looked after, or some mixture in the form of worm medicine is kept where the hogs may gain access to it at all times. The following simple and inexpensive mixture, which may be prepared on the place, has been recommended by the late Mr. Theodore Louis, a breeder of high repute in the Northwest:

"Take six bushels of corn-cob charcoal, or three bushels of common charcoal, eight pounds of common salt, two quarts of air-slaked lime and one bushel of wood-ashes. Break the charcoal well down, with shovel or other implement, and thoroughly mix. Then take one and one fourth pounds of copperas (sulphate of iron), dissolve it in hot water, and with an ordinary watering-pot sprinkle the solution over the whole mass, and again mix thoroughly. Put this mixture into self-feeding boxes, and place them where the hogs of all ages may eat of their contents at pleasure."

We might add that quantities, either greater or smaller than that given, may be prepared by simply observing the proportions of the different ingredients. Also, that this mixture has already been the means of saving many a pound of meat in the state.

With reasonably good care of the animals as to comfort, sound, wholesome food and pure water, and the regular use of a mixture such as that above suggested, which is both a corrective to the bowels and a worm medicine, hogs should be maintained in a fairly sound and healthy condition. And considering our present freedom, we need not have specific cholera, unless we import it in purchases of animals, which either have it in their systems or are otherwise the carriers of the infection from their original homes. To prevent its introduction, therefore, will require "eternal vigilance" on the part of our own people who purchase in other states.—Louisiana Experiment Station.

Weaning the Pigs

There seems to be a great difference of opinion concerning the proper time to wean pigs. Some follow the practice of letting them wean themselves, which is not a good practice. If hogs are raised for market on the farms of North Dakota in large numbers, sows of all tendencies will be used and it will prove most rational as a rule to wean the pigs when they are about six or seven weeks old. As soon as they are taken away from their dams, run them in a grass lot until other forage crops are ready. If the litters vary considerable in age, it will be well to make two lots of them, so that they may be grouped according to age.

If they are weaned at this age they should be fed carefully. They will get along very well if skim-milk is available. If not, they will not thrive as well. When skim-milk is lacking, feed them a ration of two thirds middlings and one third ground oats which has been soaked between meals. Feed the pigs three or four times a day for a few weeks after they are weaned.

The pigs should be castrated before they are weaned, as they recover from the operation more readily at this age than at any other. It is not a good practice to let pigs get over a month old before they are castrated.—North Dakota Station Bulletin No. 83.

An Economical Home-Grown Ration for Dairy Cows

	Protein Lbs.	Carbohydr'tes Lbs.	Fat Lbs.
Alfalfa hay 12 lbs.	1.32	4.75	.14
Corn-silage 30 lbs.	.27	3.39	.21
Corn-meal 5 lbs...	.39	3.33	.21
Ground oats 2 lbs.	.18	.94	.08
	2.16	12.41	.64
30 lbs. 4% milk...	2.14	13.90	.58

This is a palatable, nutritious ration. It contains enough protein and fat, but is deficient in carbohydrates. Usually it is difficult to obtain enough proteids, but here is a farm-grown ration deficient in carbohydrates. The use of alfalfa hay obviates the necessity for much nitrogenous concentrate. If alfalfa hay is not available, equal quantities of cow-pea hay may be used in its place. The deficiency in carbohydrates can be easily corrected by feeding a small amount of corn-stover each day in addition to the ration as it stands. It will hardly pay to purchase oats at present prices, but when they are grown upon the farm it may be a different question. They are a valuable food for the dairy cow, and as small a quantity as two pounds will be useful mixed with corn-meal. Other grains could be used. This ration illustrates a fact of great significance to the milk-producer and should encourage him to utilize more carefully the opportunities offered by each farm for producing all the food for the herd, as it is here shown that a satisfactory ration can be thus secured.—Purdue Station Circular No. 13.

The Facts About "Floats"

Since we began to talk about using "floats," or ground raw phosphate, in stables or in the manure, many farmers have written to ask more about it. We do not want to set any one wrong, and therefore make this explanation. "Floats" is a name given to phosphate rock ground to a fine powder.

In making acid phosphate the "floats" are mixed with sulphuric acid, which "cuts" or dissolves them and makes the phosphoric acid available. Do not imagine, therefore, that the "floats" will take the place of acid phosphate in feeding your crops.

We have considered that the use of "floats" would make a fair experiment. We do not, however, claim that a ton of "floats" will give you results equal to a ton of acid phosphate in one year or two. We understand that a general effort is being made to push the use of these "floats." A quantity of phosphate rock has been found in Tennessee which is not rich enough to make into acid phosphate. Therefore the owners will endeavor to sell it in the raw form. This is legitimate enough, provided farmers know just what they are buying, and realize the difference between the "floats" and available phosphoric acid.

We make this statement, because it seems evident that a good many farmers believe that these "floats" will take the place of a complete fertilizer. We have a letter from one farmer, who asks if he shall buy a car-load of these "floats," having never used them before. He thinks he can use them on sod-ground that has been limed, and get good results from their use with no other fertilizer added. The only good results we have heard of from the use of "floats" were on acid soil. The limed soil would probably show little benefit. It is a great mistake to imagine that these "floats" alone on any such soil will take the place of a complete fertilizer. There is always this danger in advocating the use of any new and untried material. We do not advise large use of these "floats" until they have been fully studied. The great majority of soil on our Eastern farms needs lime, and basic slag gives both lime and phosphoric acid at a fair price. Do not forget, however, that the slag does not furnish any nitrogen or potash.

Doctor Jenkins of the Connecticut station refers to some experiments in Ohio where "floats" was used with manure:

"In these experiments forty pounds of rock phosphate were mixed with each ton of stable manure, and comparison was made with the same kind of manure unmixed with rock phosphate.

"In fifty-six separate tests covering eleven years an average of five dollars and sixty-eight cents in increased crop was recovered for every dollar spent in rock phosphate, *which was bought for eight dollars a ton.*

"Of course, no such results are to be experienced on soils like many of our own, where, however deficient phosphoric acid may be, nitrogen is much more deficient. But the stocking of land with phosphoric acid by use of the amount of 'floats' indicated above, which can be strewn in the manure-trenches of the stables, may be profitable in connection with the growing of legumes and other means of increasing the available nitrogen of the farm."—The Rural New-Yorker.

TRAVEL WITH THE BREEZE MOTOR VEHICLE

MODEL "J-650" Shown above, equipped complete with top and roll-up storm front, lamps, horn, rubber apron, full fenders, 1 1-2 in. solid rubber motor tires and roller-bearing axles.

7 other Breeze Models from $425 to $850

The practical wisdom of using an automobile in the country, is best proved by the success of the "*Breeze*"—built strong and sturdy and simple—built to travel the roads and do the work *you* would require of it with the least trouble and bother to you.

Its 14 horse-power engine is readily understood and kept in order, and can be driven at a speed of anywhere from 4 to 25 miles an hour.

The "*Breeze*" goes through deep sand and mud, over high hills, and along rough roads with ease, in good or bad weather. It means greater convenience, greater saving of time, greater comfort for all the family.

Beautifully upholstered in green leather and handsomely painted.

Send for Catalog "G"
THE JEWEL CARRIAGE CO.
Elmwood Station, Cincinnati, O.

The Economy Motor Buggy

12 Horse Power — 2 Cylinders — Air Cooled

$500

A handsome, practical, solid rubber tire motor buggy. Costs less to own and operate than to keep a horse—no tire troubles—no punctures or blow-outs.

Most Economical Motor Vehicle Made

Suitable for country or city—rough roads no obstacle. A great hill climber—goes anywhere 4 to 20 miles per hour. Absolutely reliable and requires no experience to operate. Every "Economy" is fully guaranteed. If you are interested in a Motor Buggy, we have the best proposition to make you that you have ever heard of. Write us at once for catalogue and full particulars.

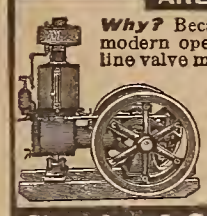
ECONOMY MOTOR BUGGY CO.,
Department Y Joliet, Illinois

SAVE MONEY
SAVE TIRE TROUBLES
Equip Your Bicycle With
G&J TIRES

The best bicycle tires made. The most satisfactory to ride. The easiest to repair. The most economical to use because they last the longest. For sale by all bicycle dealers and supplied on new wheels when you specify them. Insist on having your new bicycle equipped with Original Indianapolis G & J Tires if you want the best service.

Accept no imitations or substitutes.
Look for the G & J Trade Mark.
Write for Free Catalog 21
G & J TIRE CO., Indianapolis, Ind.

Stickney Gasoline Engines ARE THE BEST



Why? Because of the outside igniter, modern open cooling system, straight-line valve motion and ball-bearing governor. Thousands in successful operation because of our years of experience in building the best. Seven sizes: 1½ to 16 H.P.

Send for our Free Catalog and our Catechism telling fifty-seven reasons why *Stickney Engines are the Best.*

Agents everywhere sell them.

Charles A. Stickney Company
MAIN OFFICE & FACTORY ST. PAUL, MINN.

$48 for this Air Pressure Water Supply System

complete as shown in cut. Having a daily capacity of 145 gallons. Guaranteed as represented or money back.

The Baltimore Co.
Tanner Block, Baltimore, Md.

WE BUY OLD BAGS

What do you do with your old bags? Don't throw them away, we will buy Feed bags of all kinds—Gluten, Beet Pulp, Bran, Oats, Corn, Cotton-Seed Meal Bags, etc., and pay you highest prices. Write us today for prices and particulars. We pay the freight.

ST. LOUIS BAG & BURLAP CO.
330 N. Main St., St. Louis, Mo.

Farm For Sale 7,000 Profit-Paying Farms in 14 States. Strout's New Monthly Bulletin of Real Bargains, profusely illustrated, mailed *free;* we pay your R. R. fare. E. A. STROUT CO., Book 2699 World's Largest Farm Dealers, Land Title Bldg., Phila.

Let Me Pay The Postage on My Big Free Book to You

Though it costs me 8c to mail every one of these books, yet I'll send you one free because I want you to know about my Celebrated Split Hickory Buggies—made-to-order—sold direct from my factory to you at home on 30 Days' Free Road Test—guaranteed two years. Over 100,000 Split Hickory Vehicles now in use giving splendid satisfaction.

I'll Save You $26.50 on this Split Hickory Special Buggy

Big saving on over 100 other styles and full line of Harness. My 1909 Book gives description and prices on over 125 styles of Split Hickory Vehicles—tells how they are made—and why they are best to buy—shows you more Vehicles to choose from than you could see in 10 big store rooms. May I send you this book free? Will you write today? Address me personally—

H. C. Phelps, President, The Ohio Carriage Mfg. Co., Station 23, Columbus, Ohio

Split Hickory Vehicles Sold Direct from Factory to Home. 30 Days' Free Road Test—Two Years' Guarantee.

Write For Split Hickory Buggy Book Today-Free

THE fact that Amatite *needs no painting* makes it the most economical roofing on the market.

A roof which requires painting every couple of years to keep it tight is an expensive proposition. If you will stop and figure out the cost of the paint, you will find it is frequently more than the roofing itself.

Amatite is covered with a *real mineral surface*, which makes painting absolutely unnecessary.

Anyone can lay Amatite. It requires no skilled labor. Nails and liquid cement which requires no heating, supplied free with every roll.

Write to-day to nearest office for free sample and booklet.

BARRETT MANUFACTURING CO.

New York, Boston, Pittsburg, Minneapolis, Chicago, St. Louis, Cincinnati, New Orleans, Philadelphia, Cleveland, Kansas City, London, Eng.

A HOE YOU SHOULD KNOW

It sharpens itself

THE "*True, Temper Special*" is a new and important tool that never grows dull. It is made on a new principle. The blade is the same shape as other hoes, but instead of being made entirely of soft steel, it is made this way:

A piece of high grade tool steel is welded firmly to the bottom half of the mild steel body. It is welded to the front of the blade. It forms a sharp, razor edge and as the soft steel wears down with use, the thin tool steel always presents a sharp cutting edge. You never need to use a file with the

TRUE TEMPER SPECIAL

American Fork & Hoe Co.
Dept. D, Cleveland, O.

HOT WATER IN ONE MINUTE

Heats immediately—as much or as little as needed—no more, no less.

Uses gasoline, acetylene gas or ordinary gas. Capacity 2 gallons per minute. Gasoline type $36.00. Acetylene gas type $32.00; ordinary gas type $24.00 up.

Sold on Approval. Write for Particulars.

DAYTON SUPPLY CO. Dept. H. DAYTON, OHIO

Gardening---By T. Greiner

Tomatoes as a Money Crop

"How many tomatoes will one plant produce? Does it require real rich ground for them? Is sandy sod ground good for them? Is eight dollars and fifty cents a ton a fair price for tomatoes?" These are questions asked by a reader in Ohio.

It is easily possible for one plant to produce half a bushel of tomatoes during the season. This cannot be done on very poor ground, of course. Tomatoes will do well, however, on sandy sod as well as on stronger loam of moderate fertility, and will usually respond freely to applications of commercial fertilizers.

A fair average crop amounts to from eight to twelve tons an acre. If we set about two thousand plants on an acre, this would mean only a yield of from eight to twelve pounds of fruit to the plant, which is by no means extravagant. I have seen and secured double that yield, and more. But eight dollars and fifty cents a ton is about a fair price for tomatoes grown for the canneries. It means gross returns of about eighty dollars or more an acre. It means about twenty-five cents a bushel.

The average price which we receive for our tomatoes in a retail market (a bushel here and a bushel there, all to private consumers, with perhaps an occasional lot to grocery-stores) is fifty cents. But this also means closer sorting, more careful packing, etc. Yet tomatoes at that price may be considered a fairly remunerative crop.

The Pickling-Onions

For sandy and clean soil pickling-onions are a profitable crop—but not on heavy soil or clay. I do not raise them any more beyond the needs of the household and a few for retailing to neighbors, simply because I have not just the soil which this crop demands. What few I plant, however, are put in quite early, so as to get ahead of the weeds.

I sow in rows a foot apart, with the drill, and try to use about two ounces of seed to each one hundred feet of drill. I use the Barletta onion, which is very small and pure white. It is a very early onion, too. The New Queen is often sold as identical with Barletta (or Adriatic Barletta). The Hendersons consider them two distinct types of onion, and wrote me as follows: "The Adriatic Barletta is a much smaller onion and is used largely by canners as an extra-fine pickle-onion. With us the Queen has always been a larger type."

Muskmelons

How to grow muskmelons is a question asked by a Maryland reader. He has a piece of sandy loam sloping to the northwest. He has had his troubles, as many of us have had. Beetles bite and blights blight the plants. How to provide plant-food for the vines is another problem.

On general principles we do not like the idea of planting melons and many other crops repeatedly in succession on the same piece of ground. Sandy loam is good for melons, and any kind of manure—horse, cow, sheep or hog—may be used to provide the needed fertility. Melons like rich soil, and the manure should be well mixed with the soil. Good fertilizer may also be used, whether consisting of wood-ashes or some good complete fertilizer of the kind sent out by manufacturers as special vegetable or potato manure.

If a new piece of ground (say old sod) could be taken instead of the old spot, and gradually fixed up for melons, the task of raising good melons, and plants free from blight, etc., would be greatly simplified. Spraying the vines early and often with Bordeaux mixture and arsenate of lead will greatly help to keep beetles and blights in check.

As to varieties, grow what your market demands, but grow for quality. I find Emerald Gem, Paul Rose and Gold Coin more profitable and salable than most other sorts.

Nitrates for Plants

A Wyoming reader asks me about using nitrate of soda for the purpose of stimulating tomato and cabbage plants that were started in boxes in the house.

My aim in growing early tomato and cabbage plants for setting in open ground always is to retard them rather than force them into succulent growth. I want stout, short stalks, not a lot of sappy leaves. I use nitrate of soda to some extent on onion-plants because I want them large, but never on tomato or similar plants.

Our friend has been told "to put a teaspoonful of nitrate of soda at the base of each plant once every two weeks." Don't do it, at least not until the plants are set in open ground. Some years ago the New Jersey Experiment Station reported good results from such an application to each plant in the field soon after their transfer to open ground, and claimed that it hastened setting and ripening of the fruit. I have never been able to notice any such result on my tomatoes. Late applications of nitrates on tomatoes I believe are decidedly injurious by retarding the ripening of the fruit. Better save your nitrate of soda for other crops!

About Arsenical Poisons

An Illinois reader asks for information on the use of arsenate of lead. He has found Paris green very unsatisfactory, especially in fighting the striped cucumber-beetle. He says "it is liable to burn the foliage of vines if put on strong enough to do much good."

I have never obtained satisfactory results in applying Paris green for the striped beetle. In the amount that it is safe to apply, it does not seem to kill the "bugs." We might conbine it with lime in greater strength, or with Bordeaux mixture, without danger to the foliage, but it does not do the business as arsenate of lead does.

I have regularly used the latter with Bordeaux mixture, in the strength of about one pound of the paste to fifteen or twenty gallons of the spray mixture. Last year I used the commercial lime-sulphur solution, reduced by adding about fifteen parts of water to each part of the commercial solution, and arsenate of lead in the strength here recommended.

This has always promptly disposed of flea-beetle and yellow-striped beetle, and seemed to protect the vines against blight attacks. Yet I hesitate to advise everybody to use this combination of lime-sulphur solution and arsenate of lead on garden plants, especially cucumber and melon vines, or potatoes, until more systematic trials have been made with it and we know exactly where the danger-line is. Better use Bordeaux mixture and arsenate of lead.

Ohio Bottle Onion

A reader in Wooster, Ohio, inquires about the Bottle onion found in the local markets of Springfield, Wooster, etc., wondering whether that vicinity is the only place they are raised. I had them once, and tried them, having obtained a supply through the kindness of the editor of FARM AND FIRESIDE. I could do little with it, however, and gave it up. I have not been able to discover its origin or anything else about it. The Ohio Experiment Station is at Wooster. Perhaps the horticulturist of that station can tell something about this onion, or being on the spot, can find out where it came from and what are its true merits.

My Last Year's Garden

My garden is on a village lot. It is divided into two parts—one being thirty by forty-five feet, and the other forty-five by ninety feet. On these two small pieces of ground I raised last year all the vegetables, except potatoes, for a family of six, and of potatoes I estimate about six bushels. These were not kept account of, as they were dug from the hills after they became large enough to use as they were needed for the table.

There were three rows of radishes thirty feet long, planted as early as the ground could be worked in the spring. My favorite radishes are the following: A round or turnip-shaped red, which may be had under various names from the different seedsmen, and which will mature roots in from twenty to thirty days; the French Breakfast, a standard olive-shaped variety, which is very crisp and sweet and will come more nearly to producing a good root for each seed than any other I have ever grown, and the Crimson Giant, the best medium-early I have ever grown, coming to remarkable size without getting pithy, and is exceedingly tender and sweet. Of course I planted a succession, and thus kept the table supplied until the taste for radishes had become satiated. I had one or two of the long-rooted sorts, but we do not like them so well as the varieties named, and this year I shall not plant any of them unless it be a row of the White Strasburg, which we found to be pretty good.

I planted one thirty-foot row of chard, of the variety known as Lucullus. The plant is of a very thrifty growth, and that row was a notable object in my garden the entire summer through. This vegetable is highly commended by the seedsmen to be served somewhat after the manner of asparagus, but we failed to be impressed with its virtues, and after a couple of trials of it, according to the directions, the home queen refused to have anything more to do with it, and none of the family protested her position in the matter. It was my first trial of that vegetable, and I shall not cumber the ground with it any more. I had one thirty-foot row of salsify, which has furnished us with an occasional delicious soup during the winter. The soil was too rich, and that caused the roots to branch too much. This plant prefers a rather sandy and light soil to do its best in. Alongside of this I had two rows of Red Wethersfield onions, from which I gathered more than a bushel of bulbs, and six rows of bottom-set onions, which furnished us with all the early bunch-onions we could use, and about a bushel of ripened bulbs. There were also one row of parsley, for garnishing, two of carrots and two of parsnips. The parsnips and carrots produced a sufficiency of these succulent and palatable roots for the table during the entire fall and winter months. Then there were six rows of the same length of beets. I planted several varieties, such as the Eclipse, Egyptian, Market Gardener's and Bastian's Half Long.

Two or More Varieties of Each Plant Add Variety and Service

I planted a row each of two different varieties of lettuce—Black Seeded Simpson and Deacon. In many years of experience and trial of different varieties I have found the former to be the very best sort of the non-heading kinds. The Deacon has also proven to be the best heading kind for me. I notice that many of the seedsmen have ceased to catalogue it, which I think is a mistake, for many of their newer varieties are not nearly so good. For the private gardener it is the surest to head, and it will stand the heat and drought of midsummer better than any of the rest.

Of tomatoes I planted an Early Pink and the Ponderosa, starting the plants early in the house. The former came into bearing quite early, and bore profusely all the season through. It was a great success, though the tomatoes were a little lacking in smoothness. The Ponderosa bore magnificent fruits, though not very abundantly. A row about evenly divided between these two varieties across the larger piece of the garden, about ninety feet in length, furnished all that were needed for family use during a long season, and several bushels for canning. Of peas a succession of the well-known dwarfs, American Wonder and Nott's Excelsior, produced an abundance.

I had two varieties of bush-beans—a white wax and a sort known as Brittle Wax with pencil-shaped pods. I planted an ordinary ten-cent packet of each kind, and they furnished more than we could consume. The Brittle Wax is the prettiest bean I ever saw, wonderfully prolific, and keeps in bearing longer than any bush-bean I know anything about. I consider the Kentucky Wonder the finest pole string-bean grown. I had twelve hills of this kind. From these we harvested several bushels of the finest kind of string-beans, much more than the family could consume, and several of our neighbors' tables were enriched from these dozen hills.

My best success with pickling-cucumbers was with the Everbearing. From half a dozen hills the good wife put up forty quarts of the finest pickles. For slicing I like Fordhook Famous, and shall keep planting that variety. From four hills of these we had an abundance for table use during a long season.

Buying the Garden Seed

I purchased my seeds from a reputable seed-grower, one of FARM AND FIRESIDE'S standard advertisers, and my experience was entirely satisfactory. I thoroughly believe in the doctrine of patronizing your local business men—that is, whenever it is the most profitable to do so—but in the matter of buying garden seed it is always far and away the safest and most profitable to order from the catalogue of a well-known and reputable seedsman.

Iowa M. G. RAMBO.

ALFALFA

is now successfully raised in most sections of the country, and heavy yields are obtained by the use of

POTASH

Potash gives vigor to the plant and insures a deep rooted, well set stand that produces large yields. All who have used Potash, say:

Potash is Profit

No fertilizer is complete for Alfalfa without at least 10 per cent. of Potash, or 10 pounds of actual Potash per 100 pounds of fertilizer. If you cannot get such a fertilizer from your dealer you should reinforce the low grade goods with 2 pounds of Muriate of Potash to the hundred for each per cent. of Potash needed.

Write for instructive pamphlets pertaining to the fertilization of all crops, etc.

GERMAN KALI WORKS
93 Nassau Street, New York
Chicago—Monadnock Block
Atlanta—1224 Candler Building

Cow Peas. Wood's Seeds.

We are headquarters for all Farm Seeds—Cow Peas, Soja Beans, Millets, Sorghums, Ensilage Corn, Crimson Clover, etc. prices quoted on request.

Write for prices and Wood's Crop Special, giving interesting information about Farm Seeds. Mailed free on request.

T. W. WOOD & SONS,
SEEDSMEN, - - RICHMOND, VA.

$1,500 PROFIT MADE ON CIDER

Write for our free catalog which fully describes and illustrates The Original

Mt. Gilead Hydraulic CIDER PRESSES

For custom work in your locality they are money makers. Built in sizes 10 to 400 barrels per day. Hand or power. Also Steam Evaporators, Apple-Butter Cookers, Vinegar Generators, etc. We can show you how $1,500 clear profit can be made.

Fully Guaranteed

Hydraulic Press Mfg. Co., 106 Lincoln Ave., Mt. Gilead, Ohio
Or Room 119D, 39 Cortlandt St., New York, N. Y.

Monarch Hydraulic Cider Press

Great strength and capacity; all sizes; also gasoline engines, steam engines, sawmills, threshers. Catalog free.

Monarch Machinery Co., 603 Cortlandt Bldg., New York

CIDER PRESSES

and all machinery for making fruit juices, etc. Most reliable and economical. Catalogue free.

The BOOMER & BOSCHERT PRESS CO.
99 Water Street, Syracuse, N. Y.

Take Off Your Hat to the MYERS

The only Glass Valve Pump—never sticks—never fails—always ready. Also HAY TOOLS, Barn Door Hangers, Hay Rack Clamps. Write today for Circulars and Prices.

F. E. Myers & Bro., 30 Orange St., Ashland, O.

THE PUMP THAT PUMPS

FOR RAPID, EASY SPRAYING "Auto-Pop" NOZZLE.

Slight pressure on lever starts dense spray. Automatic shut-off. Doubles capacity. Saves solution, time, labor.

INCREASE THE CROPS

by using the "Auto-Pop" nozzle on the "Auto-Spray" pump. Write for factory prices, spraying guide and agency offer.

E. C. Brown Co., 18 Jay St., Rochester, N. Y.

A Little Gold-Mine for Women

The U. S. Cook-Stove Fruit-Drier

Dries all kinds of Fruits, Berries, Cherries, Corn, Vegetables, etc. It takes no extra fire. Always ready for use, and will last a lifetime. It works while you cook. Write for circulars and special terms to agents. Price $5.

E. B. FAHRNEY, Box 125, Waynesboro, Pa.

ORNAMENTAL FENCE
25 Designs, All Steel.
Handsome, cheaper than wood, more durable. Special prices to churches and cemeteries. Don't buy a fence until you get our free catalog.
Kokomo Fence Machine Co.
427 North St., Kokomo, Ind.

LAWN FENCE

Many designs. Cheap as wood. 32 page Catalogue free. Special Prices to Churches and Cemeteries.

Coiled Spring Fence Co.
Box 414 Winchester, Ind.

ORNAMENTAL WIRE AND STEEL FENCE

Cheaper than wood, combining strength and art. For lawns, churches, cemeteries. Send for FREE CATALOG. Address.

The Ward Fence Co.
Box 665 Decatur, Ind.

FISHERMEN'S OUTFITS COMPLETE

50c., $1, $2, $3, $4 and $5. Send immediately for our combination offer to fishermen, illustrated. Separate outfits supplying everything needed, and sold at cost for the purpose of introducing the wonderful MAGNETIC FISH BAIT. This is a straight offer, and now's your time to take it up. MAGNETIC FISH BAIT is a scientific product, bringing the fish to book by the *double* appeal of sight and smell. You never saw anything like it; it literally draws the fish by irresistible temptation of his senses, and the result is a "catch" that's worth while—and it wins 'em all alike, regardless of species. It costs less and does more than any other preparation. Write for book "Facts About Fish"—*free.*

Magnetic Fish Bait Co., Dept. 24, Republic, Mo.

Fruit-Growing

By Samuel B. Green

Fertilizer for Peach-Trees

Mrs. I. W. K., New Milford, Connecticut—A good fertilizer to use for peach-trees that will not make a sufficient growth of wood is as follows: Four hundred pounds of ground bone and one hundred pounds of high-grade muriate of potash. This should be applied in the spring of the year about the trees, and cultivated in. I would suggest that in addition to this you use nitrate of soda at the rate of one hundred pounds to the acre, putting some of it about each tree after they are in leaf, say May 15th. I would also try seeding down the land to clover or some other good cover crop, and plowing it in. I do not like the idea of applying commercial fertilizer to any land, especially that which is adapted to peaches, without supplying plenty of humus in the soil. It may be that on your land you will get just as good results by plowing in a crop as by the use of commercial fertilizers. Of course, if you have plenty of good stable manure, it should have the preference, as it is the best fertilizer for general use on the gravelly soils that it is customary to use for peaches.

Climbing Cutworms — Lice on Currants

R. L. O., South Weymouth, Massachusetts—I am inclined to think that the ends of your currant and raspberry shoots are eaten off by climbing cutworms. It is an unusual occurrence, and I doubt if it will happen again with you this year. There is no practical remedy for this insect, except to use baits in the form of poisoned green clover or poisoned bran left in occasional places where the worms can get at them.

In order to keep the lice on the currants in check, begin spraying with whale-oil soap and water as soon as the foliage begins to unfold. If begun thus early the lice may be kept in check. If delayed until big blisters are formed on the leaves, they cannot be easily destroyed.

Plum-Trees From Sprouts

W. J. W., Watertown, New York—You state that the plum-trees on your lot had been allowed to grow closely together for some years, until they had taken on almost a hedge-like form; but you have cut out all but a few of these shoots and you ask if all the other shoots should be cut away. If you have saved the original grafted tree, or if you know that the original tree was on its roots, then you are quite safe in saving some of the shoots to make new trees, and all the others should be cut down. If, however, the original tree was grafted, and has been cut away, and sprouts have come up from the roots, then what you have saved may be, or quite likely is, of little value.

If you want to try them and see what they will amount to, then you should keep all the other sprouts cut out, except the two small trees that now remain. In keeping the shoots down, you will find the best way is to cut them off with a dull ax or spade; but the chances are, if they are of some variety of plum that sprouts readily, that they will continue to bother you with more or less sprouts for a good while to come. There is nothing you could put on the ground that would destroy the shoots without endangering the lives of the trees you have saved.

Bordeaux Mixture and Grape-Bugs

W. J. B., New Britain, Connecticut—Bordeaux mixture may be bought ready prepared, but it is customary to make it as follows: Four pounds of blue-stone, four pounds of stone lime and fifty gallons of water.

The blue-stone (also known as copper sulphate and blue vitriol) is most easily dissolved by hanging it in a keg or other receptacle near the top of the water some time before it is to be used. Do not use a sack which will lose lint, or the lint will clog the sprayer nozzles. Hot water dissolves the blue-stone more rapidly than cold. Only wooden, crockery or copper ware should be used for dissolving blue-stone; it corrodes iron. One pound of blue-stone dissolves very readily in a gallon of water.

The best grade of stone lime should be used. To slake the lime, add water as needed, until completely slaked into a milk of lime. Air-slaked lime is not safe to use.

When ready to apply the Bordeaux mixture, pour the four pounds of dissolved blue-stone into the empty barrel, and add about thirty-five gallons of water. Then dilute the milk of lime from the four pounds of stone lime to about ten gallons, and pour into the diluted blue-stone solution. Then add enough more water to make fifty gallons.

I am inclined to think that the bug you refer to as eating your grapes is not the so-called true rose-bug, as it does not spin a web over the fruit. I am at a loss to know what insect you refer to as spinning a web about the fruit, and would like to have you send on specimens for identification. I am inclined to think, however, that spraying with Bordeaux mixture as soon as the buds begin to unfold will probably be effective in this case, and that if Paris green is added to the Bordeaux mixture at the rate of about one pound to one hundred gallons, that its effectiveness will probably be increased. I would suggest, however, that you add one pound extra of lime to neutralize the acid in the Paris green.

Grafting Lemon and Orange

W. E. R., Quincy, Illinois—Lemon and orange trees do not graft nearly so easily as they bud; but they can be grafted, and for this purpose I think it rather preferable to use the side graft. This work should be done about the time the tree starts into growth and before the scion has made much of a start.

If you have a tree handy to use for scions, then you might use what is sometimes called grafting by in-arching, or approach grafting. In this case the stock to be grafted on is set close to the one from which the scion is to be taken, and the branch from the scion tree is drawn over and tied closely against the branch of the stock.

Before doing this, however, the bark for perhaps two inches on the scion tree is removed by a neat, smooth cut, and a cut of the same corresponding size just through the bark is made upon the stock plant, and these two portions are tied closely together and waxed. If they are left undisturbed in this close union they will generally unite in the course of a few months, after which the scion tree may be cut away, and the strength of the stock tree forced into the scion.

For Currant-Worms

The worms found on currants and gooseberries are best fought with promptness. We have various most-effective and easily-applied remedies, yet it is a fact that a large portion of the bushes of these fruits are allowed to become defoliated by the attacks of this pest, which of course greatly damages or reduces the fruit. Most of us are criminally careless in this respect.

The best thing to use is white hellebore, put on the bushes when wet with dew by means of a powder-gun, or mixed in water in a spray. It is quickly effective. Tobacco-dust seems to help some. Arsenate of lead in a solution of one pound to twenty or more gallons of water sprayed on the bushes when the worms first appear in the spring will also prove a sure remedy. But whatever you use, use it promptly.

Cherry-Tree Injured by Borers

J. W., Newark, New Jersey—I think there is no question but that the reason why the bark of your cherry-tree is loose is that the trunk of the tree is infested by borers. Peaches, cherries and plums are very liable to borers, and in the cherries and peaches there is generally an exudation of gummy material, which becomes mixed with dirt, which together makes quite a bunch about the tree near the surface of the ground.

The most satisfactory treatment is to remove the diseased portions and dig out the borers. This should be attended to in the spring and again in August, and the wounds should be covered with grafting-wax or white lead. Where the wounds are near the surface of the ground it is a good plan to cover the wound over with earth.

Paint Talks—No. 8
Costly Economy

The practical farmer has long since learned the difference between "cheap" and "economical."

"Cheap" seed—"cheap" fertilizers—"cheap" implements—"cheap" paint—always prove to be most costly.

It requires just as much to put on "cheap" paint as good paint—often more. After it is on it soon cracks and scales and you wish it was off. The worst thing about it is that good paint cannot be put on until the poor paint has been removed, and that means expensive burning, or scraping.

Make your paint of Pure White Lead (Dutch Boy Painter Trademark) and pure linseed oil and you'll have a job that will look right first and last—will wear long and leave a perfect surface for repainting.

The Dutch Boy Painter is your guarantee. All our white lead bears this trademark. If your dealer cannot supply you with the genuine, write us and we will assist you to secure it.

Houseowner's Painting Outfit 47 consisting of color schemes, specifications and adulterant detector, free. Write for it to-day.

NATIONAL LEAD COMPANY
An office in each of the following cities:
New York, Boston, Buffalo, Cincinnati, Chicago, Cleveland, St. Louis (John T. Lewis & Bros. Company, Philadelphia), (National Lead & Oil Company, Pittsburgh)

WESTERN CANADA
320 Acres Instead of 160 Acres

160 ACRE FARMS IN WESTERN CANADA FREE

As further inducement to settlement of the Wheat-Growing lands of Western Canada, the Canadian Government has increased the area that may be taken by a homesteader to 320 acres—160 free and 160 to be purchased at only $3.00 per acre. These lands are in the grain-raising area, where mixed farming is also carried on with unqualified success.

A railway will shortly be built to Hudson Bay, bringing the world's markets a thousand miles nearer these wheat fields, where schools and churches are convenient, climate excellent, railways close to all settlements and local markets good.

"It would take time to assimilate the revelations that a visit to the great empire lying to the North of us unfolded at every turn." Correspondence of an Illinois Editor, who visited Western Canada in August, 1908.

Lands may also be purchased from Railway and Land Companies at low prices and on easy terms. For pamphlets, maps and information as to low Railway Rates, apply to Sup't of Immigration, Ottawa, Can., or to the authorized Canadian Government Agent.

H. M. Williams, 413 Gardner Bldg., Toledo, O.; J. C. Duncan, Room 30, Syracuse Savings Bank Bldg., Syracuse, N.Y.

SUNNY Florida

FARMS.

Why not locate in Manatee County, (West Coast)? Ten acres net as much as a hundred in Northern States. Delightful climate, abundant rainfall, convenient markets.

VEGETABLES NET $1000 ACRE.

Outdoor work the year round, several crops a season. Lands reasonable. Write for full information.

J. W. WHITE,
General Indl. Agent,
Seaboard Air Line,
Dept. H B,
Portsmouth, Va.

NEW YORK
PHILADELPHIA
BALTIMORE
WASHINGTON
RICHMOND
SAVANNAH
JACKSONVILLE
ATLANTIC OCEAN
LAND OF MANATEE
GULF OF MEXICO

Minnesota State School Lands

The State of Minnesota will offer 400,000 acres of rich agricultural land for sale, during the months of May, June and July. Terms:—15% Cash, Balance 40 Years, at 4% Interest. For complete information write The Minnesota State Board of Immigration, Dept. G, State Capitol, St. Paul, Minn.

YOUR RAZOR ALWAYS SHARP

Buy no more razors. Pay no more hone bills. Shave in comfort. Send us your name at once.

SEDELKE & COMPANY, Dept. 16, ELYRIA, OHIO

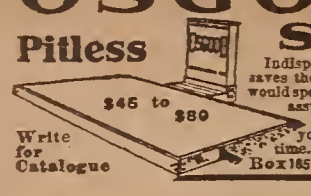
PATENTS SECURED OR FEE RETURNED.

Free report as to patentability. Illustrated Guide Book, and List of Inventions Wanted, sent free.

EVANS WILKENS & CO., WASHINGTON, D. C.

PATENTS Watson E. Coleman, Washington, D.C. Books free. Highest references. Best results.

OSGOOD Pitless SCALE



Indispensable on every farm; saves the time and money you would spend on a public scale, and assures perfect accuracy always. Priced within your reach; good for a lifetime. Osgood Scale Co., Box 165 Binghamton, N. Y.

$45 to $80

Write for Catalogue

CHICK SAVING COOP

Keep chicks warm and dry and save them from Rats, Weasels, Lice and Mites in the all metal Sanitary Brood Coop. Exclusive pattern, made only by us. Adds 100% to profits. Knocks off 60% from cost of poultry raising. Easily taken apart and stored. Send for Free Circular. Agents wanted.

Des Moines Incubator Co., 254 Third St., Des Moines, Iowa.

SEA GREEN & PURPLE SLATE

SEA GREEN AND PURPLE SLATE is nature's own product—not man made. Quarried from solid rock—split into convenient form for laying, and then in its natural state ready for the roof. SOLID ROCK CAN NOT WEAR OUT. It can't burn, rust, warp, crack, tear, or decay. That's why Sea Green or Purple Slate Roofs never wear out and never require painting and repairing like all other roofing. Sea Green & Purple Slate Roofs *are suitable for any building*, new or old. Give perfect protection. Reduce insurance rates because spark and fire-proof. Afford clean cistern water. Not affected by heat or cold. First cost—only a trifle more than short lived roofing. Settle your roof question for all time. Don't spend more money for poor roofing. Write to us for our free book "ROOFS"—it will save you money. Give name of your local roofer. *Write today.*

AMERICAN SEA GREEN SLATE CO., Box 13, Granville, N. Y.

ROOFS NEVER WEAR OUT

Get a Home of Your Own

"Be it ever so humble there's no place like home" runs the song. It will not be humble --at least for very long--nor will there be any other place like it if you

Locate in the Northwest
Along the
Northern Pacific R'y

¶Minnesota. Hardwood timber, easily and profitably cleared. Rich prairie lands. ¶North Dakota. Fertile prairies, good water, cheap fuel: Six million acres of free Government land, which is being rapidly taken up. ¶Montana. Grazing lands, now being irrigated in many places, producing large crops of alfalfa. Thousands of acres of land being reclaimed by the Huntley and Lower Yellowstone Irrigation Projects. Flathead Indian Reservation to be opened about August 1st. ¶Eastern Washington and Northern Idaho. Rolling prairies, yielding bountifully without irrigation. Nearby mining camps afford excellent markets; mild climate—No severe storms: Unrivalled irrigation propositions in the Spokane Flats, east of Spokane; in Vineland, at Lewiston-Clarkston, and in the Famous Yakima Valley, including Kennewick, Prosser, Kiona, Mabton, Sunnyside, Toppenish, North Yakima and Zillah. The great fields of the Walla Walla District are attractive. ¶Western Washington. Rich alluvial bottom lands; cut over lands for dairying and truck gardening; Never-failing markets in the cities of the Sound, Alaska and the Orient.

Round Trip Homeseekers' Tickets sold on first and third Tuesdays of each month. Summer Tourist Fares effective May 20th to September 30th. Liberal stopovers.

For illustrated descriptive literature, write to C. W. MOTT, General Emigration Agent Department 64, ST. PAUL, MINNESOTA

For rates of fare, time of trains, etc., address A. M. CLELAND, General Pass'r Agent Department 64, ST. PAUL, MINNESOTA

Poultry-Raising

My Experiment in Feeding Chickens

One spring I made an experiment with a brood of twenty-five chickens. I had read that chickens should not be fed for twenty-four hours after they were hatched, as the yolks of the eggs in their abdomens supplied the needed nourishment; also, that it was better never to give any sloppy foods, as the chickens were liable to contract bowel trouble. Every year I bad had a number of young chickens to die with this disease, so I concluded to try the new way.

After taking the hen and chickens from the nest, I tied her to the coop in the yard, permitting the chickens to run in the sunligbt. I placed water in a saucer where the chicks could help themselves. After twenty-four hours I sprinkled some millet-seed on a board near the coop. Soon the mother's "cluck, cluck," called the little ones to their first meal. It was interesting to watch them peck away at the small grains. Soon they were swallowing them. I never once gave a sloppy piece of food, but sometimes gave crushed corn or dry bread crumbled fine for a change. I never lost a chicken or saw a brood grow faster or look healthier. I kept plenty of grit near the coop, and took particular pains to keep them out of the rains and early morning dews. After they had grown to the size of partridges I fed wheat mixed with cheat at times, and it was relished. This experiment proved to me beyond a doubt that the new way is the better, so the old way has been laid aside. W. D. Neale.

Causes and Treatment of Gapes in Chickens

This common and destructive disease among chickens is due to the presence in the windpipe of a little red worm commonly called the gapeworm. These worms obstruct the passage of air to and from the lungs, and thus cause the characteristic gasping movements of the suffering chick.

This disease has been very thoroughly studied by the different experiment stations, which have found that the commonly recommended practice of introducing into the trachea a partly-stripped feather or horsehair, and by a twisting motion dislodging and removing the worms, does not seem to be practicable for very young chickens. Tbe trachea is so small and is so easily injured that it is impossible to dislodge and remove all of the worms by such means.

Chicks generally recover without treatment when they are attacked after they are half or more grown, and hence fowls that might from their size be treated successfully with a feather do not require treatment of any sort. It is the very young chicks that suffer most, and the only treatment in their case that seems to be successful is rubbing the neck from time to time with lard or vaseline thoroughly mixed with a little turpentine (three parts of the lard or vaseline to one part of turpentine). This treatment should begin before the disease makes its appearance, as it will not be of much help to the cbick in the last stages of the disease. I have sometimes cured them after they had the disease by placing the affected ones in a tight box and sifting lime on them, causing them to sneeze and cough up the worm, but when I find a chick affected with gapeworms I generally get him out of the way.

Chickens contract the disease when allowed to run on soil which has been infested with the gapeworms, or they sometimes get them by eating earthworms. Keeping chicks on a plank floor for several weeks after they are hatched will prevent tbe gapes. It is probable that the same result would be obtained by simply elevating an earthen-floor above the surrounding level, so that it would not retain moisture. However, it must be remembered that after the disease is established in a brood it will be conveyed from one to another through the medium of food and drink, and in such case a plank floor alone would not save it.

In case the disease should be introduced by the chicks whicb had contracted it elsewhere, the proper treatment would be to isolate the affected individuals as soon as discovered and medicate the drinking-water of the rest.

It has been claimed that hens may be infested with the gapeworm without showing any evidence of the fact, and may thus be the means of transmitting the disease to tbe chicks, but this I think is rather doubtful. If it is true, it becomes very important to see that the brood-hen is free from the disease before placing the chicks with her. A. E. Vandervort.

Feeding Young Ducks

I have had the very best of success with ducks for several years, frequently raising every one batched.

When the ducklings are about five weeks old I begin to force them for market, and by the time they are eleven or twelve weeks old they weigh from five to seven pounds each.

I never feed young ducklings whole grain. The feed is always clean and wholesome. It is always mixed just before feeding. If food is allowed to stand until it ferments, it will cause convulsions or fits.

The ducklings are kept in houses (not coops) at night and in large yards during the day. They have plenty of grass, and good water to drink. Fresh water is provided four or five times a day. The vessels are kept clean by frequent scalding.

The floors of the houses where the ducklings sleep at night are cleaned every day and covered with fresh bedding. From twenty-five to tbirty-five ducklings are kept in each yard and each flock has a separate house. Ducklings of various ages should never be kept together. They must have shade in bot weather and must not be allowed to stay out during storms. It is an easy matter to drive ducklings, and they should be driven to shelter whenever a storm is approaching.

Ducks of all ages require a great deal of grit, but it should never be mixed with their feed, because if it is, they are sometimes forced to eat more grit than they require. The best plan is to place the grit in shallow vessels near the feed-troughs. While small, ducklings need only coarse, sharp sand, but as they grow older something coarser is required, such as crushed oyster-shell, coal cinders, etc. Our ducks prefer coal cinders to any other kind of grit.

After a duckling is four or five weeks old there is little danger of overtaxing his digestion if he is provided with plenty of sand and other grit.

When fattening young ducks, I feed five times a day—all they will eat up clean. They are not confined to one kind of feed for any length of time—that is, they are given a variety every day. Skim-milk plays an important part in the bill of fare, but milk is never given as a drink. It is used to moisten the food.

A favorite mixture is composed of equal parts of corn-meal, oatmeal, cooked potatoes and bran moistened with milk. A little salt and some powdered charcoal are added once a day. Other vegetables are sometimes used instead of potatoes. Sometimes chopped onions, lettuce or dandelion-leaves are added. Boiled wheat, oats and cracked corn mixed with bran and moistened with milk is another well-liked mixture.

Anna Wade Gallagher.

Time conquers all things *Except* "The Weld That Held"

Here's the fence you're looking for! No wraps, no ties, no twists, no clamps—just line and stay wires electrically welded at every contact point. The weld is as strong as the wire. By doing away with superfluous pieces we add strength and durability and reduce cost.

"PITTSBURGH PERFECT" FENCE

One Solid Piece of Steel Throughout

The only welded fence. A chick can't squeeze through, A bull can't break through.

Perfectly adaptable to uneven ground, and to all temperature changes. The best steel, galvanized by our own latest improved process, insuring the longest lived fence on the market.

This is the best fence ever made for any fence purpose —for front yard or garden, for stock or for chickens. Made in 73 different styles.

The cost is small, the service great. Your dealer has it, or write for free catalog.

PITTSBURGH STEEL CO., PITTSBURGH, PA.

Live Stock and Dairy

Weighing and Testing the Milk

On our farm we weigh every cow's milk at each milking. The time required to do this and record it on one of the milk-sheets does not average over one minute per cow each day.

We use a pair of good spring balances in weighing our milk, and they must be correct or they cannot stay in our barn. These balances will weigh up to thirty pounds and divide the pounds into tenths of pounds.

We have a case built for this milk-sheet with a door, so we can shut it when we are done recording. This keeps the record clean. This case hangs on the wall right close to the scales, so as to be handy.

We used to use a slate and take the record off into a book every fifteen days. This, however, made a lot of hard work every two weeks, and we like the sheet much better. I had this sheet made to order, and it gives each day's milk for the entire herd, and then each cow's milk each day, and total for the month, with average test for the month.

We do not seem to have any trouble in getting the men to weigh and record the milk. They seem to be as willing to do that part of the work as any of it.

We test part of the milk every week or every two weeks in the year. I could not estimate the value it is to the man in the dairy business to weigh and test every individual cow. It surely is worth many times what it costs, and I think there is no other work that we can do on the farm that will pay so well, provided we are students and will profit by what this work will bring out in the way of returns from the feed and the results from certain lines of breeding.

Farmers who are trying to be progressive are following along the latest methods, and it does not matter whether they learn a good thing from books or from experience; so long as they learn it, they use it. R. B. Rushing.

Green Fodder for Feed

An Indiana farmer writes that his pasture runs short in the latter part of summer, and he would like to know what he should sow or plant to help out at that season. He says he finds his local market nearly bare of good butter at that season, and people willing to pay extra prices for a good article, and he would like to supply them. He wants to know what I think about the Japanese millet (Billion Dollar grass) and Pencilaria, two much-advertised fodder-plants.

I think that the two plants mentioned are next to worthless, except in a few localities. For a green-fodder crop to help out late-summer pasture there is nothing equal to Evergreen sweet corn. This is an old variety that grows to a large size and makes a large quantity of the very best of green feed for milch cows and growing pigs. It will do more to keep up the flow of milk and yield of butter-fat than any other plant I know of along that line.

Most farmers put too much stock on their pastures, and when the growth of grass begins to slow up they soon clean it up. If we have plenty of rain in the latter part of the summer the supply of grass is generally ample, though not of the best quality for either milk or butter. But a drought along in July stops growth quickly, and one must begin to feed. Here is where a supply of sweet corn fits in beautifully. Give the cows an armful in the morning when the leaves are full of sap and crisp, and they will eat every particle of it, and the flow of milk will be undiminished. Another armful in the cool of the evening keeps them in good order, and one has butter of the best quality to sell when town people are willing to pay fat prices for it.

If one has very fair pasture, and needs the sweet corn to help out during the late summer and early fall, he should not plant until after he has his dent corn in. Then he should make about three plantings, the second after the first is up a few inches, and the third after the second is well started. If these three plantings are well cultivated they will come along one after the other just about as they are needed. In cultivating, the main thing is never to allow the soil to get crusted or baked. Keep it loose all the time. This prevents it from drying out, and keeps the corn green and growing.

If one has pigs that have to be kept in a yard all summer, sweet corn is the best green feed he can grow for them. The first planting should be made as early as the land can be gotten into proper condition, to be followed by other plantings about two weeks apart. As the first planting is cut, the ground may be plowed, well disked, or ripped up with a cultivator, and replanted. This replanting will make lots of green feed for fall use. I have had early July plantings to nearly mature before frost came.

For cows and pigs I have obtained better results with sweet corn than with any other fodder-plant. If the season is just right, and your ground rich, rape does very well and makes lots of green feed, but in my opinion it is far from equaling sweet corn as a milk and butter yielder. In some sections sorghum makes a good summer feed and is largely planted for this purpose, but for the fact that it starts slowly, and when nearly mature the outer coating of the stalk hardens so that stock cannot eat it, I think it would be planted quite extensively. I have used it, but never obtained as good results as from sweet corn. Fred Grundy.

Making Cream-Cheese at Home

We make our own cheese for home use, and as there are perhaps some who do not know how to make this highly nutritious food, I will give our method.

To make a three-pound cheese that is good after four weeks, and better with age, we take five gallons of milk, cream and all, if it has set for a while, and heat till about milk-warm.

We then dissolve one half of a No. 2 rennet tablet in one half teacupful of cold water, stir it well into the milk, and add one tablespoonful of salt to the milk, and then stir. We remove it from the fire, and let stand from three to six minutes, when it becomes thick, like clabber. As soon as it becomes solid clabber it is ready to break up. We then stir the clabber, or curd, as it is called, which separates the curd from the whey, and let it stand until the curd settles to the bottom.

With the hand we press the pieces, say one inch thick, put into a crock, and pour hot water over it. It is then stirred with a spoon, and let set till it seems tough, like leather, which will be in about three minutes. We now take it out of the water and again cut in pieces, as it has run together, salt as for butter, and it is ready to be pressed.

For the press we take a gallon syrup-can and melt off both ends, and make ends for the can from one-inch boards to just fit inside. We set the can over one board and line it with a well-greased cloth long enough to fold over the top. The curd is then poured in, the cloth folded over and the other board put on. It is then set where it can drain, a fifteen-pound weight is placed on top, left for twenty-four hours, and then removed from the press. We take off the cloth and grease the cheese, lay it on a plate in a screened box, and grease and turn it every day until it is ready to use.

Wm. H. Underwood.

Dip the Lambs

When the old sheep are sheared, the ticks will leave them and go to the lambs, because they find better protection in their long wool. At this time the lambs should be dipped, to destroy the ticks, or the lambs the farmer intends for the market may be unfit to sell, on account of the reduction of flesh just at selling-time. The commercial or tobacco dip may be used, and it is a good plan to dip the lambs twice to make sure that they are rid of the pests, as a new lot is liable to get on them. The second dipping may be given about two weeks after the first.

W. D. Neale.

When you Build or Repair remember that the most durable and economical material is concrete, also that

ATLAS PORTLAND CEMENT

Makes The Best Concrete

OUR FREE BOOK "Concrete Construction about the Home and on the Farm." Contains over 100 drawings and illustrations of concrete houses and suggestions to the prospective builder.

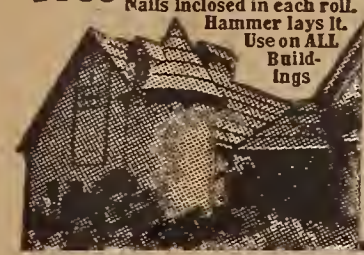
The ATLAS Portland CEMENT Co., Dept. 122, 30 Broad St., N.Y.

ATLAS, the cement bought by the U.S. Government for the Panama Canal.

Freight Prepaid On Breese Bros. Rubber Roofing

Don't spend a dollar for roofing until you have seen and tested the old, reliable **Breese Bros.** guaranteed waterproof, fire-resisting, durable **Rubber Roofing.** Made by our own special process, of long-fibre wool felt, saturated in asphalt. Heavily coated on **both sides.**

Free Cement and Special Roofing Nails inclosed in each roll. Hammer lays it. Use on ALL Buildings



Send for Free Samples and Booklet

Get these samples of 1-ply, 2-ply and 3-ply roofing. Put them to every test you can think of and prove to your own satisfaction that **Breese Bros. Rubber Roofing** is the bigbest quality roofing on the market. We give the

Longest Guarantee

Send for samples or order now on our strong guarantee of satisfaction or money back. We pay freight to all points east of the western boundary line of Minnesota, Iowa, Missouri, and north of south line of Tennessee. Don't delay ordering; these special prices may not be offered to you again. Take advantage of them and write now, today.

Lowest Factory Prices

Freight Prepaid on 100 lbs. or more

35-lb. Roll—108 Sq. Ft.—1-Ply	$1.35
45-lb. Roll—108 Sq. Ft.—2-Ply	1.85
55-lb. Roll—108 Sq. Ft.—3-Ply	2.25

Order today, or write for Samples and Booklet

THE BREESE BROS. CO., Roofing Dept. 24, Cincinnati, Ohio

Elkhart Buggies

are the best made, best grade and easiest riding buggies on earth for the money.

FOR THIRTY-SIX YEARS

we have been selling direct and are **The Largest Manufacturers in the World** selling to the consumer exclusively.

We ship for examination and approval, guaranteeing safe delivery, and also to save you money. If you are not satisfied as to style, quality and price you are nothing out.

May We Send You Our Large Catalogue?

Elkhart Carriage & Harness Mfg. Co.
Elkhart, - - - - Indiana

THE REAL TEST OF ANY ROOFING

is the number of years it wears. But you ask, how can you tell which roofing will wear the longest before buying? We are going to tell you how. Get several samples of different kinds of roofing. Be sure that one of them is Vulcanite. Put them all to the following tests or any others you may wish.

FIRST, put a live coal on each piece, that will tell which is fire-proof.

NEXT, put them between cakes of ice or expose them to zero temperature, that will tell how well they stand climatic changes.

NOW, soak them in water over night, that will show how well they turn rain and whether they will water soak.

THEN, immerse them in acid, that will tell whether they will soon become perforated—full of holes and leak.

Bend them, twist them, to see if they crack, peel or the surface breaks.

You'll find Vulcanite will withstand any test you give it and be just as fresh, tough, pliable as when first received. When you put it on your roof the **real test of time** will be even more gratifying. It has **quality** in it—that's why. It is not only the best roofing, but the cheapest. A postal brings a sample by return mail, also a book about roofing you ought to read. Sold by all dealers, if yours can't supply you write to us.

VULCANITE — STRONG DURABLE

PATENT VULCANITE ROOFING CO.,
Dept. 98, S. Campbell Ave., Chicago.

WAIST HIGH

EASY RUNNING

$29.75 FOR THIS NEW LOW DOWN AMERICAN $29.75

CREAM SEPARATOR

A SEPARATOR THAT EXCELS ANY SEPARATOR IN THE WORLD

DON'T HESITATE BECAUSE OUR PRICE IS LOW. The quality is high; we guarantee it. It is up to date, well built and well finished. It runs easier, skims closer and has a simpler bowl with fewer parts than any other cream separator. Don't accept our word for it. Judge for yourself. Our offer enables you to do this at our expense. Write us a postal card or a letter and receive by mail, postpaid, our 1909 catalogue. It is handsomely illustrated, showing the machine in detail, and fully explains all about the Low Down AMERICAN. It also describes the surprisingly liberal LONG TIME TRIAL proposition we can make you. Competition is defied by the quality and price we make. Our generous terms of purchase will astonish you. Remember, we are the oldest exclusive manufacturers of hand separators in America, and the first to sell direct to the user. You are not dealing with any agent, middleman or catalogue house when dealing with us. Not one single profit is paid anyone between ourselves and our customer. You save all agents', dealers', even catalogue house profits and get a superior machine by dealing with us. Our New Low Down AMERICAN Waist High Separator is the finest and highest quality machine on the market and our own (the manufacturer's) guarantee protects you on every AMERICAN Separator. We can ship immediately. Western orders filled from Western points. Write us and get our great offer and handsome free catalogue on our New Low Down AMERICAN Separator. Address

AMERICAN SEPARATOR CO., Box 1055, BAINBRIDGE, N. Y.

Will You Spend One Penny To Get a Buggy Book That Saves You $25 to $40 Cash?

Just a penny will buy a postal card and that is all that is required to get our free book. All we want is your name and address on the postal card. We will send the book and pay the postage.

Don't pay your good money for a vehicle or harness of any kind until you get this book, because it will quote you factory prices on the highest quality vehicles, sold direct to you from our Columbus factory, on a full month's trial, and two years' guarantee.

This book, with its selling plan, has saved buggy users hundreds of thousands of dollars on the best line of vehicles made anywhere by anybody.

When you get the book, compare our buggies and harness with anybody else's and see how much lower our prices are and how much better the quality. We have proven the quality of the old, reliable Columbus vehicles to thousands of thousands of buggy users everywhere, and want to prove it to you, and,

Our Low Prices—One Full Month's Trial and 2 Years' Guarantee Will Please You

Make your selection from our complete line, all sold direct to you from our factory at lowest rock-bottom factory prices. Keep the dealers', jobbers' and middlemen's profits right in your own pocket. Use the money for something else. Don't pay anybody for tacking onto the price. Deal direct with the maker and save money.

Will you write the postal today and get this book and full plan! Address

Columbus Carriage & Harness Co.
Station C8 Columbus, O.

75 Styles Shown In Our Big Free Book

COLUMBUS BUGGIES

The Necessity of Necessities

Taking for granted, then, that **a Separator is a necessity,** (and who would be foolish enough to say it's not?) then comes the question, Which separator?

There's Only One Standard

The one that the **greatest breeders** of the country **own**—Mr. Gillette, owner of the greatest Holstein; Mr. Hill, the Guernsey authority; Mr. Scribner, who developed the great Jersey, Loretta D.; and Mr. Winslow, of Ayrshire fame.

The Separator that is good enough for these men is good enough for any one.

The Separator that made the greatest record ever made for 50 consecutive tests at the Pan-American Model Dairy.

***The Separator that has taken the Gold Medals** at all the leading exhibitions, such as the Columbian Exposition, Paris Exposition, Pan-American Exposition, Louisiana Purchase Exposition, and Lewis and Clark Exp.*

Such Records Mean Something.

What? That the

U. S. CREAM SEPARATOR

is the only Separator that a man of wisdom and discrimination should buy, if he desires to have the best.

A person purchasing any other make of Separator is acting with only a partial knowledge of the possibilities of Separator construction.

Send at once for the rest o the truth fonnd in **Catalog No. 69.**

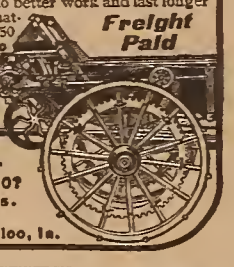
Vermont Farm Machine Co., Bellows Falls, Vt.
AGENCIES EVERYWHERE

I'll Save You $50 On a Manure Spreader If You'll Let Me

This is just a little ad—but a postal will bring my **Big Book**—and give you my $50.00 Saving Price and Special Proposition. You can save as much answering this little advertisement as if it covered a page.

My Spreader positively will do better work and last longer than any Spreader made—no matter what the price—so why pay $50 more? **20,000 farmers have stamped their O. K. on my spreader and money-saving price.** My Special Proposition will interest you. Just a postal addressed to Galloway of Waterloo, Iowa, will bring you everything postpaid.

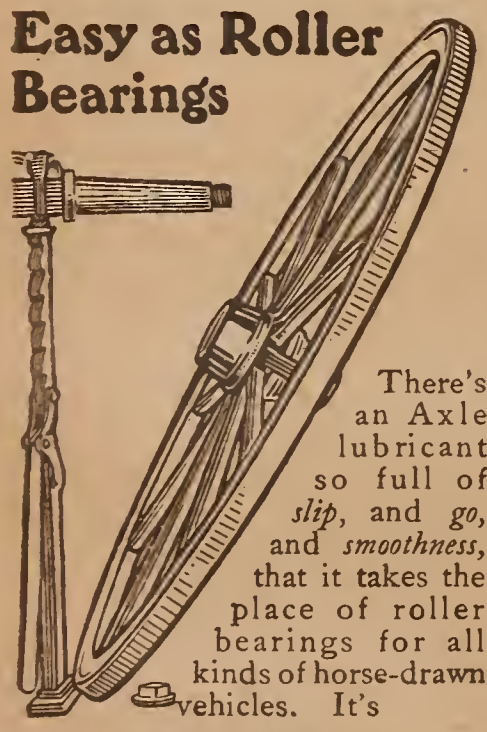
Freight Paid



Will You Pay a Penny For The Postal and Save $50.00?

Address **Wm. Galloway, Pres.**
WM. GALLOWAY CO.
749 Galloway Sta. Waterloo, Ia.

Easy as Roller Bearings



There's an Axle lubricant so full of *slip*, and *go*, and *smoothness*, that it takes the place of roller bearings for all kinds of horse-drawn vehicles. It's

MICA AXLE GREASE

And a trial of it means constant use ever after. Mica Axle Grease *won't* make an empty wagon *push* a horse up hill; but it *will* make a big load draw no end of per cent easier.

It's a friction killer and a horse saver; and it wears so well that it's hard to remember the date of last greasing.

Ask your dealer for Mica Axle Grease and try it.

STANDARD OIL COMPANY
(Incorporated)

Live Stock and Dairy

Feeding Farm Horses

It is not what a horse eats, but what he digests, that keeps him in good condition and renders him capable of heavy and prolonged labor. While no intelligent farmer needs to be told that irregular feeding is injurious, many overlook an equally serious mistake. I refer to overfeeding. This course, no doubt, is well meant; but good intentions as paving material are never higher than their proverbial value. I have always been impressed by the common sense of Frenchmen in matters of horse feeding. They have a rule that there must be an interval of four or five hours between meals. A little practical study of this point will convince any one that it is sound doctrine. Oats take about two hours to digest, and hay requires three hours, thus leaving a needed hour or two for the digestive organs to rest.

One must, however, adapt methods to conditions. No horse is fit for work with his stomach distended with hay, because, being situated right behind the lung space, it, if full, bulges forward into the chest to such an extent that the lungs haven't sufficient room to properly expand, and anything that interferes with the function of the lungs predisposes to heaves. Farm horses that are working every day have no time to eat more than a small quantity of hay at either the morning or noon meal. By this I do not infer that a horse should not be fed three times a day, but to emphasize the fact that the evening meal should be the most substantial; for the work being over, there is ample time for rest and digestion and for the renewal of exhausted tissues or muscles.

It is generally admitted that oats is the most satisfactory grain for horses. I have used corn in combination with other grains, but it is too heating a food to be fed exclusively. Bran forms a suitable and desirable addition to the ration, being cooling and soothing in its action. Approximately ten pounds of oats, five pounds of corn and three pounds of bran divided into three equal feeds make a day's ration that would be hard to improve upon. The weight fed at each meal should be about the same, but for the sake of variety the corn may be omitted at the morning meal and fed at noon. For the evening meal it is a good plan to feed crushed oats along with the bran, and a few handfuls of cut hay, the whole being dampened and salted to make it palatable.

Regarding the roughage for horses, timothy hay is the most widely used. Its popularity, however, depends largely on its freedom from dust rather than on its nutritive qualities. Unfortunately, it has the serious drawback of being a poorly-balanced food. When free from dust I would prefer good mixed hay. Better still is red clover cured in a semi-green condition; there is no dust, the horses eat it well, and the protein content is rich enough to considerably reduce the amount of grain that would otherwise be required. During the grazing season, particularly through the hot summer months, and after the pastures have become fairly well matured, I prefer to turn the horses out at night. The dry heating food that a horse consumes from year to year calls for some special regulation to neutralize the excessive proteid consumption that has taken place. This the occasional change to grass does. It is possibly true, as some maintain, that the substituting of grass for a certain amount of the dry feed may for a time lessen to some extent his energy and power to endure protracted labor, yet I am convinced that such a procedure will enable the average horse during his lifetime to perform much more labor, keep in better health and live longer than were he kept continually on dry feed.

How and when to water a horse is another matter concerning which there exists a diversity of opinion. There seems to be a great deal of exaggerated fear about watering horses when they are warm. When a large amount of perspiration has been secreted while working, it leaves the system parched. A pail or two of water of moderate temperature is the best thing that can be given, and ordinarily they should have it at once. Personally, I believe the very best guide for the attendant is, "When a horse is thirsty, give him a drink." Certainly it is an acceptable one to the animal himself. So long as precautions are taken to have the chill off, it will not hurt him in the least, but rather refresh and prepare him to enjoy his feed.

A variety of factors must unite in keeping horse-flesh in good shape. Important among these is judgment in working and increasing or diminishing the allowance of feed as circumstances demand. It sometimes happens that when horses are being well fed for heavy work, and are allowed to stand idle for a day or two, the disease known as lymphangitis is apt to get a foothold. "Monday-morning fever" is what the Englishman calls it, because, after resting over Sunday, more cases are reported on Monday morning than on any other day during the week. A horse getting three full grain feeds a day generates in his system a large amount of heat and energy, which are just what he needs to perform a good day's work. When, however, he gets a day off, and the full grain ration is continued, there is no vent for it. It is the function of the lymphatic glands to dispose of this excess of nourishment. If they fail to do so they become inflamed, and an attack of lymphangitis results. To counteract this tendency the grain ration should either be reduced or a bran mash substituted and exercise allowed. In a word, that rare quality called "common sense" is the secret in maintaining the teams in presentable shape and strong working condition. Some one has said that it is not so much what you feed as how you feed it—common sense without oats being better than oats without sense.

J. Hugh McKenney.

Proper-Fitting Collars

From experience and observation I have learned that different men have different minds regarding the work-horse collar. The size, shape, pads, hames, etc., all come in for a share of discussion. As to size, I think that all must agree that we are apt to use collars that are too large, rather than too small. A collar should fit the neck and shoulders snugly, and not extend low in front. If it allows free breathing, it is long enough.

Hames should be well adjusted, so that the draft will not come too low on the point of the shoulders. Sometimes the saddle-straps can be shortened, raising the point of pressure higher on the shoulders. Of course, this will necessarily have to be done carefully, as it brings pressure on the back, and may be the cause of back sores if not watched and carefully adjusted.

Sores can be prevented much more easily than they can be cured. The best collar is probably the leather one without pads. I always use it thus, but many use the pad without bad results. Collars should be kept clean and soft, and the sweat should be washed off the horses, especially from the shoulders, back and all other places where the harness fits and works upon the heated, sweaty surfaces.

Sores on top of the neck are sometimes more of a serious proposition than mere hide-galls. If not attended to promptly they are apt to develop into fistulous sores, troublesome, dangerous and hard to cure. The zinc bridge or neck-pad is of great help in avoiding this trouble. Thick, wide sweat-pads are not usually satisfactory for summer use, but a smaller pad may sometimes be of service in case of sores on shoulders. It is best used by cutting or picking out the pad just over the sore, so that the pressure of the draft will come above and below the affected surface. This will give the sore a much better chance to heal. The main point in the matter, however, is to use snug, well-fitting collars, to keep them and the horses well cleaned, and to see that the draft bears properly upon the shoulders.

Did you ever think how nice it would be for you to carry a load with a sore under it? Then does not the horse have some feeling, also? I think he does, and I think, when you consider the matter, you will agree with me.

R. B. Rushing.

On Rainy Days A Fish Brand Slicker will keep you dry

And give you full value in comfort and long wear

$3.00

GUARANTEED WATERPROOF

Sold by first-class Retailers the country over. Send for our Free Catalogue

A. J. TOWER CO.
Boston, U. S. A.
TOWER CANADIAN CO., Ltd.
Toronto, Canada
609

TOWER'S FISH BRAND

For the best O.I.C. Swine that money can buy

Size and quality combined. Honest and fair dealings guaranteed. Prices right. Illustrated catalogue free. It will be to every farmer and stock growers' profit to make inquiry at once. Address:

M. L. BOWERSOX COMPANY
R. R. 4, Box 9 Bradford, Ohio

ABSORBINE

Will reduce inflamed, strained, swollen Tendons, Ligaments, Muscles or Bruises, Cure the Lameness and Stop pain from a Splint, Side Bone or Bone Spavin. No blister, no hair gone. Horse can be used. **Horse Book 2 D free.** $2.00 a bottle at dealers or delivered.

ABSORBINE, JR., for mankind, $1. Reduces Strained Torn Ligaments. Enlarged glands, veins or muscles—heals ulcers—allays pain. Book Free.

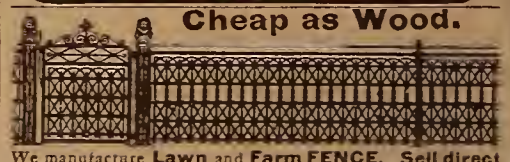
W. F. YOUNG, P. D. F., 23 Temple St., Springfield, Mass.

SILOS

that make and keep *real* ensilage; that have the utmost strength, convenience, and durability; that are used by the United States Government. Send for free catalogue.

HARDER MFG. COMPANY,
Box 31, Cobleskill, N. Y.

Cheap as Wood.



We manufacture **Lawn** and **Farm FENCE. Sell direct** shipping to users only, at **manufacturers' prices.** No agents. **Our catalog is Free. Write for it to-day.**
UP-TO-DATE MFG. CO., 971 10th St., Terre Haute, Ind.

WAGON SENSE

Don't break your back and kill your horses with a high wheel wagon. For comfort's sake get an

Electric Handy Wagon.

It will save you time and money. A set of Electric Steel Wheels will make your old wagon new at small cost. Write for catalogue. It is free.

ELECTRIC WHEEL CO., Box 96, Quincy, Ill

FIX YOUR ROOF

5c Per Square.—We will guarantee to put any old leaky, worn-out, rusty, tin, iron, steel, paper, felt, gravel or shingle roof in perfect condition, and keep it in perfect condition for 5c per square per year.

Roof-Fix The Perfect Roof Preserver, makes old, worn-out roofs new. Satisfaction guaranteed or money refunded. Our free roofing book tells all about it. Write for it today.

The Anderson Manufacturing Co., Dept. 19 Elyria, Ohio

"HOW AND WHY TO FILL A SILO"

SEND FOR FREE COPY

WILDER-STRONG IMPLEMENT CO.
Box 75 MONROE MICH.

NEWTON'S Heave, Cough, Distemper and Indigestion Cure. A Veterinary Remedy for Wind, Throat and Stomach troubles. $1.00 per can, of dealers, or express prepaid. Send for booklet.
The Newton Remedy Co.
Toledo, Ohio.

PRICES REDUCED
On Quaker City Mills

Free Trial—Freight Paid. No money down. 40 years the standard. Choose from 10 sizes, from Hand to 40-H. P. From cob meal to table meal. Ask for Free **Feed Mill Book.** Western shipments from Chicago.
A. C. Straub Co., 2741 Filbert St. Station B, Philadelphia, Pa.

Does the Cows a Heap of Good

Cow comfort and cow sanitation result in more cow profits, and that alone should induce any farmer or dairyman to seek these conditions. **Louden Sanitary Steel Stalls and Stanchions** double the light and air in a barn and insure perfect ventilation, perfect sanitation—a result impossible with any wooden equipment. Yet

LOUDEN STALLS AND STANCHIONS

are actually cheaper. Louden stalls of heavy tubular steel, with malleable fittings, have no flat surfaces for dust to accumulate—easy to keep clean and almost indestructible.

Louden stanchions give cows more comfort than other makes, yet keep them perfectly lined up. Throat chains prevent cows from lying down when milking. Simple and very durable. Latch easily opened or closed with gloved hand, but can't be opened by animal. Send today for free catalogue of sanitary, money-saving barn equipment.

LOUDEN MACHINERY CO. 633 Broadway, Fairfield, Ia.

Live Stock and Dairy

Summer Forage for the Dairy Herd

THERE are few years that we do not experience a drought, more or less severe, at some time during the season when the dairy herd is out to pasture. Even in the most favorable seasons the quantity and quality of pasture-grass is certain to deteriorate after the first of July.

The most practical and economical method of maintaining an adequate food-supply during these dry times is to supplement the pasture with some nutritious, succulent food. Many times it will prove more profitable to hold over a portion of the contents of the silo to feed during the summer, than to grow green forage crops to feed to the cattle.

Many supplement the pasture with a light grain ration rather than grow succulent forage crops, but the high price of all concentrated feeding-stuffs makes their use actually prohibitive to the average dairyman. Then it will usually prove unprofitable to feed these grain foods unless the cows have sufficient grass and forage to give the proper stimulus of distension to their digestive organs.

There are a number of excellent crops that may be grown to supplement the pastures, but in actual practice we have found alfalfa, red clover, oats and peas and sweet corn the most profitable and nutritious of forage crops for dairy cows.

Ensilage

Ensilage possesses numerous advantages for early forage, for it is at hand many times when it would be difficult to get spring crops available for early feeding. An acre of corn in the form of ensilage will produce more succulent food than an acre of any other forage crop. The feeding value of ensilage corn is so well known that it is useless to discuss its merits.

Alfalfa

On all farms where this crop will thrive it will afford a maximum amount of palatable, nitrogenous forage, oftentimes yielding as high as fifteen to twenty tons of green forage to the acre. All of the crop that is not fed green can be cured for hay. It may be cut green at various times during the summer, until late in the fall.

This crop thrives best on warm and fertile soil with loose, gravelly subsoil. A heavy clay or hard-pan subsoil is the most unfavorable. Although this crop thrives best on a rich soil, it oftentimes does well on a poorer gravelly soil. The plants consume large quantities of water, but will not survive long in a saturated or flooded soil. If water stands for any considerable length of time within a few feet of the surface, the crop will be injured.

I would advise all dairymen who have a suitable field to try a small patch of alfalfa. It possesses exceptional value as a soiling crop and is very suitable for hay. It requires much time and care to cure a crop of alfalfa for hay. If handled much, the leaves drop off, and if not properly cured there is danger of loss from mold and mildew.

Common Red Clover

At seasons of the year when available, red clover is an excellent forage crop for dairy cows, but owing to the short period of time when it is available it is not safe to place too much dependence upon this crop. In feeding value it ranks somewhat lower than alfalfa, although when in full bloom it furnishes a heavy yield of nitrogenous forage, and it is an excellent food for muscle, bone and milk production, forming a well-balanced food for dairy cows and young growing animals. Like alfalfa, there need be no waste, for it will make excellent hay for winter feeding if not cut and fed green.

Oats and Peas

Six tons of excellent oat and pea forage containing more than two tons of dry matter can be grown on an acre. This crop should be sown early and at various intervals about one week apart. We have found it best to sow about equal amounts of each kind of seed and using about three or four bushels of the mixed seed to the acre.

It is ready for feeding as soon as the oats are in the milk stage of their growth. This mixture will also make excellent hay when cut and properly cured. Some dairymen advocate sowing the pea-seed about four days or a week earlier than the oats. This plan would meet with our favor were it not for the fact that there are numerous conditions, over which we have no absolute control, that many times make it impossible for us to sow oats at the desired time.

Common Sweet Corn

In many localities in close proximity to large markets and canning-factories this crop will prove very profitable as a cash or market crop, and the stalks and nubbins will provide an excellent forage for the dairy herd for a number of weeks during the late summer and early fall. Many times when the roasting-ears will not bring a satisfactory price in the markets the whole crop may be profitably utilized in feeding the dairy herd. Sweet-corn fodder does not make satisfactory ensilage, but for green feeding it is vastly superior to the common field crop.

Does It Pay?

This question sooner or later comes up in all branches of agriculture: Does the increased amount of milk pay the added expense required to produce and harvest these forage crops?

Looked at from the standpoint of immediate profits, I would say "yes"—but not large, perhaps about three dollars a cow during July and August and September—but looked at from the standpoint of maintaining the herd in vigorous condition, and having them in condition to do their best work during the fall and winter seasons, I would say it amounted to a much larger amount per cow.

My figures are based upon feeding a herd of cows that are being milked during the whole year and not allowed to go dry in the fall. While my conclusions have been studied more particularly from the city-milk production standpoint, yet it can readily be seen that the conclusions reached would be fully applicable to milk-production for any other purpose.

I believe that while feeding green soiling crops we should feed a little grain all of the time. No kind of forage-plant that we can grow will afford the same nutriment as the short, tender pasture-grass. From my experience and observation it is not only possible, but very profitable, to plan a system of soiling crops to supplement our pasture during the dry weather. By using such crops as will make the best of hay for winter feeding, the loss of what is not needed for soiling purposes will be reduced to a minimum.

W. MILTON KELLY.

Champion Jersey Bull, Wisconsin State Fair, 1908

REAL AND FAKE CREAM SEPARATOR IMPROVEMENTS

A year ago, in keeping with its policy of ALWAYS HOLDING A POSITION FAR IN ADVANCE OF ALL ATTEMPTED COMPETITION, the DE LAVAL Company put on the market an entire new line of Improved Farm and Dairy sizes of cream separators.

They were brand new in every part, from the supply can at the very top to the shape of the base at the very bottom, and reflected the result of three years of study, experiment and test by the DE LAVAL engineers and experts throughout the world, based on thirty years of experience in cream separator invention, development and use.

Every good feature of previous DE LAVAL machines was bettered and many new and novel ones added, accomplishing greater simplicity of construction, ease of cleaning and replacement of parts; less cost of repairs where necessary; easier hand operation; more complete separation under hard conditions; greater capacity, and a material reduction of prices in proportion to capacity.

A year of practical experience in the actual sale and use of 100,000 of the new machines in 1908 but served to suggest still greater refinement of manufacture and a few finishing touches of perfection in the details of construction of the new line of machines as they are now offered to 1909 buyers.

The 1908–1909 changes in the DE LAVAL machines on the whole have been SO COMPLETE AND REMARKABLE that the man who hasn't seen and used an Improved DE LAVAL really cannot know what the perfect, up-to-date cream separator is TODAY.

The new DE LAVAL machines literally "SWEPT THE FIELD" in 1908 and competition was driven to such desperate extremity that THIS YEAR most of them have come out with all kinds of CLAIMED advertising and catalogue "improvements." Nearly everybody has an "IMPROVED" 1909 machine and is making a PLAY for business on that basis.

But we make the POSITIVE STATEMENT that there is not A SINGLE NEW OR ACTUAL IMPROVEMENT in any of them, and while some features have been bettered it has been merely through the appropriation of DE LAVAL ideas from TWO TO TWENTY YEARS OLD and in most cases long since discarded in DE LAVAL construction.

That's a PLAIN STATEMENT, made in plain words that no one can fail to understand. It has the knowledge, experience, reputation and capital of the DE LAVAL Company behind it. Some people won't heed it; some people won't believe it. That will be their loss. Those who do will profit and benefit by it.

We stand ready to PROVE IT to any one desirous of buying a separator for the first time or of trading in an old and out-of-date machine for a new one.

THE DE LAVAL SEPARATOR CO.

42 E. MADISON STREET
CHICAGO
1213 & 1215 FILBERT STREET
PHILADELPHIA
DRUMM & SACRAMENTO STREETS
SAN FRANCISCO

General Offices:
165 BROADWAY
NEW YORK

173-177 WILLIAM STREET
MONTREAL
14 & 16 PRINCESS STREET
WINNIPEG
107 FIRST STREET
PORTLAND, OREG.

SUBSCRIPTION PRICE

One Year (24 numbers) . . . . 35 cents
Four Years (96 numbers) $1.00
Canadian Subscriptions . { 1 Year, 60 cents / 4 Years, $2.00

Entered at the Post-Office at Springfield, Ohio, as Second-Class Mail Matter.

Subscriptions and all editorial letters should be sent to the offices at Springfield, Ohio, and letters for the Editor should be marked "Editor."

The date on the address label shows the time to which each subscriber has paid.

Subscribers receive this paper twice a month, which is twice as often as most other National farm journals are issued.

Silver, when sent through the mails, should be carefully wrapped in cloth or strong paper, so as not to wear a hole through the envelope.

When renewing your subscription, please say it is a renewal, and if possible send the label from a recent copy. If all our subscribers will do this a great deal of trouble will be avoided.

FARM AND FIRESIDE

PUBLISHED BY
THE CROWELL PUBLISHING COMPANY
SPRINGFIELD, OHIO
Branch Offices: 11 East 24th Street, New York City.
Tribune Building, Chicago, Ill.
Copyright, 1909, by The Crowell Publishing Company

ABOUT ADVERTISING

FARM AND FIRESIDE does not print advertisements generally known as "readers" in its editorial or news columns.

Mention FARM AND FIRESIDE when you write to our advertisers, and we guarantee you fair and square treatment.

Of course we do not undertake to adjust petty differences between subscribers and honest advertisers, but if any advertiser in this paper should defraud a subscriber, we stand ready to make good the loss incurred, provided we are notified within thirty days after the transaction.

FARM AND FIRESIDE is published on the 10th and 25th of each month. Copy for advertisements should be received twenty-five days in advance of publication date. $2.00 per agate line for both editions; $1.00 per agate line for the eastern or western edition singly. Eight words to the line, fourteen lines to the inch. Width of columns 2¼ inches, length of columns two hundred lines. 5% discount for cash with order. Three lines is smallest space accepted.

Letters regarding advertising should be sent to the New York address.

When the Year's at the Spring

AT THIS season the whole world out of doors is in high spirits. Everything shows the vivid interest in life and in each other that young men and young women of just about eighteen show. They "wonder, oh, they wonder what on earth this world can be," and they cannot keep their minds off "the girls" and "the fellows." You might say the whole world out of doors had just turned eighteen. A pretty age! The romping, hobbledehoy period of sixteen has passed, the time of April and early May, when the rough winds tease and make the living things cry out, "Now, you behave yourself! Oh, I think you're horrid! Quit it!" These days they are not merely in the awkward age, no longer children and not quite grown up, but they begin to lengthen out their skirts, and think of shaving. They begin to think of getting married and settling down. Some have already begun housekeeping. They have quite a family of little ones in the cherry-tree right where the blossoms used to be, if you will notice. You must look carefully, for they hold to the extreme doctrine about children. Not only should they not be heard; they should scarcely even be seen.

But most out-of-door things are still courting. Go by where they live and you hear the conversation: "What did he say about ME?" Zzzzzmmmmmzzzz. "Oh, he did? And what did you tell him?" Zzzzzzmmmmzzzz. "What did he say after that?" Zzzzzmmmm. "You tell him that." The bees carry the messages, and make the matches with yarns of: "Oh, he's just crazy after you," and, "I guess she's stuck on you, all right, all right," between the sups of nectar lemonade and bites of pollen cake—refreshments set out for the bearers of welcome tidings.

It is no wonder that "In the spring a young man's fancy lightly turns to thoughts of love." Look at the example set him. It is no wonder that commoner than ever becomes that miracle of clairvoyance by which She is enabled to tell exactly the color of His eyes when She has never once even looked at Him—that is, so far as the dull vision of middle age can detect. The miracle becomes so common it is no miracle at all.

The world is full of magic at this season of the year. The air is streaked with splashes of perfume that thrill the blood like some strange drug, some rare intoxicant that lulls and stimulates at the same moment. It is the season of enchantment, when all the world goes crazy, loses its sober, calculating senses, and is bewitched into assuming burdens and responsibilities that otherwise it would duck out of with a wise cry of "Oh, none for mine!" It is the season of enthusiasm, of optimism, of counting chickens before they hatch. The year is just eighteen, has rosy cheeks and all of its own teeth.

For those of us who, too, are just eighteen it is the happiest and most congenial season of the year. For those of us who are no longer eighteen, no longer twice eighteen, who even begin to be thrice eighteen—well, there are many compensations.

There is compensation in all things. It is true that we who are no longer eighteen, nor twice eighteen, and who begin to be not far from thrice eighteen, no longer thrill to touch Her hand. We do not walk in a delirium of love. We can give our mind to other questions than "What does she think of ME?" and, "Does she really care for ME? Really and truly?" When we get on the other side of forty, Dame Nature softens a little toward us: she takes us a little into her confidence, and shows us how the machine works. And if she thinks that we can take a hint, she sneaks one to us, not coming right out with it in just so many words, but so that we can surmise what is the one great Purpose that underlies all life.

When we are eighteen, as the world is now, it is all so very personal, so dependent upon us. We decide, WE, with big letters. WE choose. Our eye toward the universe is spelled "I." Each one of us is the pivot around which turns all that is. Each one of us is right spang in the middle of the whole business. Why, look and see! The sky-rim is everywhere equidistant, and when the wind blows, it blows exactly toward us. The weather waits for us (maliciously, it is true, but also regardfully), and will not rain until we come away with no umbrella. She loves "ME!" Wonderfully wise of Her to see what all the world beside should see, but does not. Joy unspeakable that "I" at last should be valued at "my" true valuation. It is all very personal—at eighteen.

But after twice eighteen, and as we begin to be thrice eighteen, we smile a little behind our hand at Springtime, just as Dame Nature does. This purpose that underlies all life is serious, very serious indeed. If one could coldly and unimpassionedly think of carrying out that Purpose, the wise man would shrink from so much trouble, so much care, so much responsibility. It is necessary that there be intoxication, enchantment, that it should seem to be so personal and not at all something that the whole world shares in—must share in or die out of hand. All the beauty of the flowers, all the fragrance that streams down the wind, all the melodious singing of the birds, the drowsy hum of bees that carry messages, all the rosy cheeks of pretty girls and the romantic eyes of youths—we look at these, and then we look at old Dame Nature. She winks at us; we wink at her. "Are you onto the game?" she seems to ask. And we nod our heads. We're out of it, we old codgers, but we're onto it. We are compensated for our wrinkles and our gray hair and having to go to see the dentist every whip-stitch. We begin to understand what is that underlying Purpose. We wonder that we didn't see it sooner.

THE END, THE AIM OF LIFE IS—MORE LIFE.

Gambling in Futures

THE chairman of the House Committee on Agriculture, Mr. Charles F. Scott, has introduced a bill in Congress to prohibit gambling in futures, as now practised on all the great boards of trade. Believing with him that commercial gambling is inimical to the interests of both producers and consumers and a menace to the legitimate business of the country, we give our hearty approval to the purpose of the bill.

The immediate occasion of the introduction of this particular bill may have been Mr. Patten's big wheat deal, but it is an old subject. Time and again in the past have similar bills been introduced, but the powerful commercial gambling interests of the country heretofore have prevented the enactment of efficient federal laws against gambling in the future prices of cereals, cotton, provisions, stocks, etc.

It is the contention of these interests that the board of trade and the stock exchange furnish a legitimate and proper market-place for listed stock certificates and leading farm products. Be that as it may, in fact about ninety-five per cent of the transactions are simply bets as to future prices.

Of the millions and millions of May wheat "traded in" by Patten and his associates on the Chicago Board of Trade, only about two million bushels were actually delivered at settling-time. The greatest profits of successful operators come from gambling in futures, not from actual buying and selling of commodities. However, the operations of the Chicago clique are based on the actual handling of grain in which they already have enormous profits.

* * *

It is a constant contention that the Chicago Board of Trade performs a real service for the farmer and benefits him. Not so. How much did the farmers benefit by the Patten wheat deal? Fully two thirds of last year's wheat crop left the farm before January 1st of this year. You can almost count on the fingers of one hand the farmers in each community who marketed wheat in April, and got any benefit from the Patten price. On the other hand, the great mass of them, like all other consumers, are buying flour at an advanced price.

Instead of being a boon to agriculture, the board of trade is an incubus. It is one of the chief means by which farmers are deprived of getting fair returns for their labor. It is an unnecessary middleman stepping in between the producer and the consumer to the detriment of both. The tribute it takes from the producer is not divided with the consumer. It takes a big slice out of the difference between every one hundred cents paid by the consumers for farm products and the thirty-five cents the farmers get for the same.

If the management of boards of trade and stock exchanges is beyond reform, and it is necessary to abolish them in order to get rid of gambling in futures, better let them be abolished. If the Chicago Board of Trade sank into Lake Michigan overnight and disappeared forever, farmers would continue to grow wheat, millers make flour and people eat bread. Every year many million dollars' worth of farm products—fruits, vegetables, poultry and dairy products, etc.—are produced, transported, bought and sold on the market and consumed without any assistance whatever from the board of trade. There is not a single farm product that needs any gambling as to its future price to help the producer. The gamblers alone profit by it and at the expense of both producer and consumer.

Absolute prohibition of gambling in futures on boards of trade and stock exchanges will remove a burden from the legitimate business of the country.

Back Talk to Lewis

Letters From Readers

EDITOR OF FARM AND FIRESIDE:—

Why do you spoil your paper by introducing politics into it?

Indiana. ROY O. KENNEDY.

EDITOR OF FARM AND FIRESIDE:—

Is it not about time that Mr. Lewis began to show us how to get the necessary relief from corruption? It no longer seems a question of men, but of principle, for all seem to fail when the environment becomes too lucrative.

New York. ANDREW B. KELLY.

EDITOR OF FARM AND FIRESIDE:—

I have taken your paper for ten years. I think it is one of the best farm papers I ever saw. Would like it better if Mr. Lewis would tell us about raising corn and wheat instead of so much politics. We get all the politics we need in this part of the country in the "Globe-Democrat" and our country papers.

Missouri. CHAS. W. FRY.

EDITOR OF FARM AND FIRESIDE:—

I do not agree with Mr. Lewis all the time, but many times I do. In the issue of April 10th he speaks of the failure of Congress to stop stock-gambling, and the need of the government doing its own banking. Mr. Lewis is quite right. We need to get rid of stock-gambling, and sorely need government banks. If the statement of Mr. Lewis is correct in regard to the twelvefold increase per capita in our government expense, there must be a very large swarm of pumpkin-bugs in Washington sapping the very life out of our Republic. By all means let us have the facts about our government at Washington. We don't get it from a partizan newspaper.

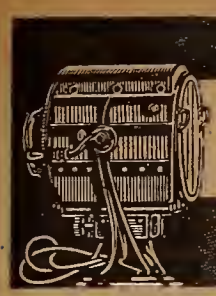
California. JOHN J. FITCH.

EDITOR OF FARM AND FIRESIDE:—

I have been a reader of FARM AND FIRESIDE for about thirteen years, and have found it very interesting and beneficial and always improving. The page of Alfred Lewis is to my mind a great improvement. The sooner farmers get class conscious and seek to do away with classes, instead of sticking to any old political party that has outgrown its usefulness, the better it will be for us and the public in general. If an officer is a fraud, let him be exposed.

Our local daily of April 23d printed pictures of Mr. Patten and men who in previous years tried to corner wheat. It is a shame that in a country where we have religious and political liberty that the very necessities of life are allowed to be cornered and prices fixed on a gambling-table. Look at those capitalists fearing neither God nor man any more than they are forced to; it is about time for us to stop the likes of that.

Washington. HANS LARSEN.



In the Public Eye

By Alfred Henry Lewis

If you don't agree with Mr. Lewis, "talk back" to him, confining your reply to two hundred words. We shall hope to publish some of these replies from time to time.—THE EDITOR.

On the Congressional Limited running down from New York the other day I bumped into Brand Whitlock and took him for George Ade, which proves that my eyes, like my years, aren't what they used to be. Whitlock is worth telling about. He's a political lesson in himself. Whitlock wrote "The Turn of the Balance." It is about rich criminals and poor criminals. The rich get away, the poor go to jail, and the story is meant to illustrate the truth of what Solon of Salamis told the Athenians some twenty-five hundred years ago, *vide licet:* "Laws were like cobwebs; where the small flies were caught, and the great break through."

Whitlock is more interesting than his book. I like Whitlock; I respect him for so many things, while agreeing with him on so few. Who is Whitlock? He is Mayor of Toledo.

"Tell me about government," I said.

"The only government in the world worth anything is self-government. The best-governed country in the world is that in which the people most govern themselves. Policies, like platforms, are good things to run on. To compel people to be good is of no account. The man who abstains from getting drunk only because the saloons are shut up is not improved. He is still a drunkard at heart—and the heart is the man. A government should not bother itself so much in protecting and helping business as in helping men."

Whitlock got off these excellent abstractions with enthusiasm. As he did so, I was admiring him and thinking how much better he was than I. The whole sweep of Whitlock's personal current is toward humanity. He wants to help it, uplift it, teach it to come up higher. It is different with me. I try to confine my excitement to myself. To me there is something preposterous about a thought of helping humanity. It is too much like giving Providence a lift.

* * *

Let me draw you Whitlock's picture. I've known Whitlock for twenty years, and have—mentally—been all through him with a lantern. Also, I know the clean, wise, honest, thoroughbred Wesleyan sources from which he emanates. The Whitlock face is a strong face, an index to the character of one who stands like a rock against every influence but charity. He has a good mouth—sensitive, graceful, not weak. Charity, I should call the keystone to the arch of his personality. He has honesty, wisdom, moral worth, strength, courage, and an indomitable bent for justice, wide-flung and rimless. And yet these are one and all locked together and held in even relation to each other by a charity so broad and catholic as to include not alone the present, but the past and the future, and every man who is or was or will be. Tall, slender, fine, he has about him and over him that something—the mark of the natural nobleman—which horse folk grasp at under the name of "class." His eyes are large, deep, wise, animated, and nothing in them of wildness or radicalism. He has thick brown hair, with now and then some worry-sown streak of gray. His face is smooth, as was every high American face until the Civil War.

Whitlock is the born democrat. And because extremes are forever meeting, and there is no such thing as a straight line and nothing save a circle, he is also the born aristocrat. There are men so rich he will not see them. There be none so poor he will not see him. There are men so powerful he will agree to nothing but war with them. Only the weak and helpless may challenge him with safety. The door of his interest swings easily to the touch of beaten folk who have lost their worldly way. And yet, like Hugo, he would "have no time for emperors."

* * *

"Speaking of the poor," continued Whitlock, without waiting for a question, "as modern conditions express poverty, I should say that to be dollarless is the crime of crimes. I get this impression from what visits I've paid our prisons. There are so many poor people in prison that one might almost say the only crime consists in being poor."

Whitlock is for laws and a scheme of courts to bring about an equality of right, just as he is for plows and scrapers to raze hills, fill ravines and bring about an equality of landscape. We make laws to prevent the physically strong from beating the physically weak. Whitlock wants laws that shall prevent the financially strong from beating the financially weak. The law, he thinks, should be as a quart pot in the hand of every man, so that when one dips up more than the justice of nature intended, the unfair excess will instantly overflow and return to the common store.

Whitlock believes that humanity in the lump is good. He reverses Machiavelli, and holds that men are born good and become evil only upon compulsion. I don't know that I coincide with either. "Good" and "evil," as terms, are difficult of definition, and are sometimes a question of latitude and always a question of race. The tropics have been in every age the home of torture, and cruelty gives way as one travels toward the snow.

Whitlock does not believe in jails. Neither do I; being inclined to hold that when you've got a man you ought to lock up, you've got one you ought to kill. This, however, is not the Whitlock reason for opposing jails. Whitlock is against capital punishment.

"What do you think of jails as a force for good?" I asked.

"Jails?" he replied. "I know of no good thing they ever did. The true principle for the treatment of criminals—that is, those who get caught—is that adopted in the juvenile court. It works with little children, and it will work with big children just as well. We hear a good deal of 'good people' and of 'bad people,' but I do not think that mankind is divided into any such classes. We hear a good deal about 'white souls,' and now and then about 'black souls,' but there are no white souls and there are no black souls—there are just gray souls."

Upon that subject of jails there is one reform of which Whitlock as mayor is a trifle proud. It is in the workhouse. He has abolished the striped raiment, and to err in Toledo no longer means that you are to be arrayed like a zebra. He has introduced a parole system. A parole-officer has been appointed. It is his business to look up situations, where he who has been an inmate of the workhouse will still be given work. Those inmates whose good conduct wins them this favor are given letters to would-be employers. They are sent forth with the letters alone; no guard goes with them. None of them has run away. Their honor was enough to hold them. Which is more than may be said of many "respectable" gentlemen who never "did time."

* * *

Whitlock is a politician, and has his politics. The latter, however, is the politics expressed in the terms "American" and "Man," and he is partizan only in his philanthropy. He cares nothing for pedigree, everything for performance. He does not believe that your great-grandfather, dead and under the grass-roots, gives you your only importance. He in nowise confines his interest to what men and things derive their single luster from the illuminative phosphorescence thrown off by a decaying past.

The path by which humanity should climb, Whitlock thinks, is politics; wherefore he is in politics. He avoids partizanship for patriotism. He looks with unfavorable eye on the organized hypocrisy of pirate money and those sycophants who lick its boots. He has no use for solemn owlets, who sit preening the respectable feathers of their vanity as members of some high political club.

"What do you think of 'reformers?'" I asked.

"Reformers? Reformers depress me. They are trying to make men over on their own model—which is unattractive. They are altogether too superhuman, too far above the common frailties and follies of mankind. They have no sympathy. They are like saints—pale, bloodless, aureoled saints. For myself, I think there is a great deal more good than bad in every man—even a reformer. I think it is our duty to strive toward conditions that will give every man a chance."

"How do you purpose giving every man a chance?"

"Oh, well, I have no patent scheme. In this country we have what we call representative government—that is, we think we have. Our trouble has been too often that the officials, instead of representing the people, represented a street-car company or a railroad company. If we can come to the pass where we have officials that will represent the people, and the people enlighten themselves and improve themselves, the government will be good because the people it represents are good. One way to get to this pass is to stop the nonsense of partizanship, of 'belong to a party.' A free man ought not to 'belong' to anything. He should not allow anything to submerge and dwarf his own personality. Personality is the thing."

* * *

Recurring to government in its broader assertions, the story of what Whitlock has done in Toledo would fill a book. Day and night he bears the town's welfare foremost upon his thoughts. Sometimes, when I see Whitlock sweating in the treadmill of other men's destinies, as no one would sweat in his own, I feel that honesty, while admirable, is still a fearful thing.

Whitlock is liberal. And yet Whitlock is deeply and naturally religious. There be conventional folk who inherit their religion as they inherit their house. They betake themselves to the paternal pew as they do to the paternal wine-bin, filling the one while filled by the other, without being peculiarly moved of either. This fashion of Christian may find fault with the Whitlock creed. The world is too much governed, and Whitlock does not intend to add to its burdens.

Something was mentioned concerning communal hypocrites, and the vast public difference between tweedle-dee and tweedle-dum. Said Whitlock, "Let me give you an instance. In Ohio the constitution declares that the liquor traffic shall not be licensed, and so we do not license it. We tax it. There is a very learned decision of the supreme court which will tell you the moral and legal difference between a license and a tax, but as nobody ever reads supreme-court decisions unless he is paid for it, I presume it would be useless to give you the citation. Now Ohio, in her disapproval of the liquor traffic, used to tax the saloons three hundred and fifty dollars a year. Then we thought of raising it to one thousand dollars. That is to say, the state of Ohio, which does not believe in the liquor traffic and thinks it is wrong, was dissatisfied with its share of the proceeds of the sin, and demanded a tax nearly three times as large. From this we learn that the liquor traffic is a very wicked thing, that we disapprove of it, and that we will not license it. For that last would be to say that we are going into partnership with the saloonkeeper. So, instead, we just shake him down."

* * *

In this vale of tears there are—among others—rich men and religious men. I bunched my hits, and craved to know of Whitlock just how deeply he would advise these excellent gentry to wade forth into the more or less muddy pool of politics. The following was his wisdom in that behalf:

"Go into politics? Of course. Every man should go into politics. Not because he is either religious or rich, but because he is a man. But it should not be necessary for any man to go into politics; he should be in politics.

"Men should live one consistent life, and their business, their politics and their religion should be one and the same thing. When I say religion, I do not mean going to church in a long coat and high hat, with an Oxford Bible under your arm. A man's religion is merely his attitude toward life—that is, his attitude toward God and toward his fellow-men. I have known men who thought they were religious. I have known one of this sort to sit down to the table before a meal, close his eyes, fold his hands, and while all the family bowed their heads in silence, say, 'Lord, we thank Thee for this food; bless it to our use, and our lives to Thy service. Amen.' And then look up, scowl, and say to his wife, 'Well, is this all you've got in the house for me to eat?'

"There is only one grace that the prosperous should say, and that is, 'Oh, Lord, forgive us for eating this food when so many are going hungry.' Now a man who said a grace like that would have the beginnings of a religion; because if he really meant what he said, it would not be long before he would be doing all he could to see to it that, while he was eating—and very likely overeating—other men were not going hungry. He might have to go into politics to do this, and, doubtless, his business would suffer; but he would have the satisfaction of knowing that he had attained to a conception of life that really meant something. His business, his politics and his religion would be fused into one consistent life. Then he would live."

And so we parted.

Betty's Broadway Motorman

By Carolyn Evans Huse

Illustrated by Harriet A. Newcomb

"JIM GORDON, do you mean to tell me that's an actual fact?"

"I do."

"That Tom Tresham gave another fellow a hundred dollars for that one dance with that girl?"

"Precisely. At the Yale '04 Prom."

Elizabeth Lindsay daintily gathered up the crusty crumbs of her roll, and laughed. "Rash Tom! He must have been hard hit and the other fellow hard up."

"Precisely. That was the exact state of things. Now try that salad, Betty—my own invention—and I'll wager you'll appreciate it."

"Because it's your own concoction?" said the girl, lifting her eyebrows slightly. "Jim, you always did arrogate a great deal to yourself."

"My dear girl, because I happen to have been born with good taste and quick perceptions, is it any reason for throwing myself down or expecting others to do so, yourself, for instance!"

Miss Lindsay shrugged her shoulders ever so slightly.

"The world takes us at our own valuation, I suppose. And that is the reason that I set a hundred dollars as the price of a miniature—but I've been known to do such a rash thing as to accept fifty."

"I'd pay many times a hundred dollars for a miniature of you, Betty." The tone was earnest, and so was the searching gaze.

There was a short suspense, then the girl laughed.

"Two things, provided," she said easily. "First, that the picture was not atrocious, and second—"

"That I had the requisite hundreds," Gordon supplied in tones as easy as hers. "That is usually a rigid, square-to-the-line, true-to-the-plumb necessity. But do you never bestow a gift?"

"Of my own miniature? Never. I'm not posing for myself these days."

"And you never heard before about Tresh and the Prom?" Gordon switched off. "Or who the girl was or—the other fellow?"

"Never. Why should I? I hardly remember seeing Mr. Tresham that evening. I rather think he had his hands full, and I'm sure I was otherwise engaged. Now I think of it, he never came near me."

"You don't mean it!" cried Jim Gordon, genuine surprise in his handsome face. "Why, what—an odd thing!" he finished.

"And as I've not seen him since," the girl went on, "I suppose he is still unreproved for his lack of manners. But, seriously speaking, Tresh and I were good friends. Of course you know the family? His mother's such a dear, and that lovely old home with its Greek portico and lawns and trees. Don't you remember that house-party the spring before?"

"I should say I did. You know they'd lost money. The last I heard of Tom he was railroading in South America."

"Clever chap, Tresh! He could turn his hand to anything, and did it all with the same enthusiasm."

"And you never saw him at the Prom! Pretty funny, that! Do you know, Betty, I used to think you and Tresh had a pull on each other—would make it up together, you know."

He spoke tentatively, with a light laugh, as he looked into her eyes. But no sign of emotion was visible in the clear gaze that met his, though a shade of reserve, ever so slight, settled over her whole manner and person.

"Did you, really? It's rather amusing to cheat the lookers-on sometimes, isn't it?" She dipped her fingers in the glass bowl the attentive waiter set before her, and pulled on her gloves with careful deliberation. "Now shall we take the Broadway car right up? I hope you've posted yourself on this opera!" This as they waited on the corner.

"No; but I know you have, and I hope to profit thereby. Seriously, Betty, I need you to take me in hand. Couldn't you make up your mind to me?"

"Foolish boy! You don't know what you want," she flashed back, "except plenty of law cases."

"There you are again with the everlasting question of money. I say, Betty, you grow downright brutal."

"Or practical," she suggested. "Forgive the petty detail of dollars and cents, but I find my tastes and positive needs assuming colossal proportions these days, and it keeps me scraping to meet my own requirements. Hence my absorbed interest in money-getting. Isn't this our car, by the way?"

"BY THE WAY it is, but it won't take us ON THE WAY or on the platform!"

"There's another behind," said Betty. "That's full, too; but never mind, it's getting late, let's try for it, Jim."

Just then a whole network of vehicles seemed to rise up from the very asphalt in front of them, but Jim from his superior height signaled, and the car stopped and waited. Still the traffic blocked the way, and still the car waited an amazing time, till suddenly the whole space was clear, and Betty with Jim at her elbow hastened forward just as the motorman turned to look back. But in the next breath the girl found herself whisked into a hansom, Gordon jumping in beside her, while he flung back directions to the cabby, who was already zigzagging up Broadway at a perilous gait, till at Union Square he swung into Fifth Avenue. Now, a cab-drive was exactly what Miss Lindsay had wished to avoid at this juncture, and she was exceedingly annoyed, but she only raised her eyebrows, and said mockingly, "May I inquire the reason for this precipitate act? Take your time, Mr. Gordon; you must be out of breath."

"I don't think I'll tell you. At least not now—"

Something in his face and tone irritated her—such odious self-assurance.

"Jim Gordon, if you don't tell me at once I'll never go anywhere with you again, and that's final."

"Hang it all, Betty, how you do corner a fellow! Well, if you must know, I recognized the motorman, and it gave me a shock, it did!"

"Was he a creditor?" she asked mischievously.

"No, worse than that; it was Tresh—"

Elizabeth Lindsay's face turned white and her eyes glowed like flames, then a crimson wave spread over cheeks and brow. "Jim Gordon, you did that thing, you? I'll never forgive you!" Her voice was tremulous and her eyelashes were gemmed with tears.

"Why, Betty, Betty. Wait, child—listen! I didn't suppose you cared particularly either way," said Jim in sincere distress; it was his turn to look surprised.

She drew a deep breath, dashed away the tears, and in an instant had regained her control. "I certainly do care to this extent, that I wouldn't do such an ill-bred, caddish thing as to cut an old friend who was down on his luck, even if he had become a motorman, and I'm surprised and disappointed in you, Jim."

"In the next breath the girl found herself whisked into a hansom"

"I'm awfully cut up about it myself. I acted on impulse, confound it! I wouldn't hurt Tresh's feelings for the world."

"I'm mortified."

"So am I."

"I suppose," Betty went on, "they've just lost everything, and Tresh, like a noble fellow, took whatever came up, and I've no doubt he does it well. He's above all petty feeling!" This last scathingly.

"Oh unquestionably!" with enthusiasm from Jim. "He always did anything with a go, eh? This is only another form of GO, eh?"

But Betty was scornful. "It's a responsible position, and only high-grade men are employed, I've heard."

"Oh, it's most praiseworthy!" Jim declared. He was beginning to think the profession an enviable one.

At any rate, he determined to hunt up old Tresh, for his ready mind and keen sight had caught the number on the motorman's cap. But of this he said nothing to Betty, who was revolving matters in her head. And while she was thus musing, the fire kindled within her and at the last she spake with her tongue. "Of course I was awfully startled and mortified, but it is nothing to worry about. I suppose it was the shock. Tom was such a good friend once, but I'm not the least bit in love with him, nor with any one else, for that matter, and don't want to be!" She laughed quite easily, and just then they reached the Metropolitan Opera House, and the scene shifted. Then for some days Broadway motormen were objects of special interest to Miss Lindsay. She traveled by that line more than ever before, and whenever she could she stepped on and off from the front end. It was all curiosity, she declared to herself, just to see how Tom looked in motorman's garb.

And this is what Jim Gordon had done. At the first opportunity he called at the company's office and inquired for motorman 43008.

"Any complaint to make?" the official inquired.

"Oh, none in the world! Old pal of mine—I mean we were acquainted—knew him some years ago in another line of work. I'd like to see him, that's all."

"43008 is due here in ten minutes. He'll no doubt be glad to see you," said the official.

"I'll wait, then."

It was pouring hard, and Jim stood under cover watching the cars as they shifted hands, and the ten minutes were hardly up when the biggest chap of all came forward, and it was Tresh sure enough. He looked fairly monumental in his storm-rig, the water dripping from coat and cap. He was the first to speak as they shook hands.

"I say, this is bully of you, old man! Who would ever have thought we'd meet here, eh?" His voice had the same hearty, joyous ring.

"Who, indeed? I say, Tresh, it's pretty rough when a fellow gets down on his luck, eh?"

"By George. Down on your luck? Tut, lad, never plead guilty! Hold on, and you'll bring your car in all right!"

"Oh, I'm not growling. Firm's all right, and I expect a raise soon. I say, do you always make as long stops for your passengers? By the way, how do you like the job?"

Tom Tresham looked full into his classmate's face, a half-quizzical, half-serious expression on his own. "It's first-rate. I like it. Now, old man, tell me, are you open to congratulations? I saw you with her—Betty—Miss Lindsay, I mean."

"No; but it's not my fault I'm not. I say, Tresh, she was horribly cut up the other day. The fact is, I acted on impulse, and whisked her into a cab, and then I told her I had recognized you in the motorman. I thought she'd make pulp of me. I never thought Betty could be so severe. She just lashed me! She couldn't stand the idea of having you think her a snob and that she'd cut you because—well, because—"

"Because I'd turned motorman, eh?" Tresh supplied. "Bless her heart! There is loyalty for you."

"Still at the old place?" said Jim tentatively.

"The Elms, you mean? Yes, still there. You must run up soon. You'll find quite a difference." And they parted, each somewhat puzzled.

Then Jim called up Betty on the telephone and told her he had set matters right. "And they're still at the old place, though he said there is a great difference."

"Of course he's working hard to keep it," Betty returned. "Just like him."

"I say, Betty, I get off early to-morrow, you know. Will you let me take you to a matinée?"

"Oh, thank you, Jim, but I can't go—ever so good of you. I expect to be away. Good-by," and Miss Lindsay precipitately hung up the receiver.

The next day she started for the station wearing a recklessly expensive hat and carrying a big sheaf of rose-carnations and a box of peppermint creams.

"Quite like old times!" she said to herself. "Mrs. Tresham was always one of my friends on her own account. She must know I was in Europe a long time, and of course Tresh won't be there."

The girl watched landmarks with increasing interest as the carriage went up the familiar drive. The rolling lawn had never looked so beautiful in its fresh green of early spring, and the driveway was immaculate as to border and gravel. Near the house a man was at work.

"It doesn't look much like poverty here," said Betty to herself. And there on the wide pillared piazza stood Mrs. Tresham, herself giving directions as to trees and plants. Such a warm greeting and "Come right in and we will have tea."

And then Miss Lindsay was, to say the least, bewildered. The interior as she had remembered it had been spacious and comfortable, but now it stretched out double its old dimensions.

"You see," said Mrs. Tresham, "we've built on a new library. Tom insisted upon it and planned the whole thing, and on this side is his own special study, the old library, you remember? A real man's den, isn't it? Oh, he brought all those hangings and queer things from South America, and some of the curios he had at college. But just now he is proudest of this," and Tom's mother stood before an imposing-looking framed document. "It's his motorman's certificate, you see. He went through from the very start and took all the examinations; that's his number, 43008."

And Betty said something about a very interesting course and enterprise, and Tom had always been so

[CONCLUDED ON PAGE 20]

Can a Cow Reason?

By Nelson A. Jackson

For many years I have been interested in watching the actions of various animals. The purpose has been to determine whether or not our four-footed friends reason. I have settled the question to my own satisfaction. If others do not choose to believe me, well and good.

I formerly owned a cow by the name of Vick, who was very fond of me. Vick did not care for the company of other cows, but always went off by herself. Finally I fenced off the old orchard and a little pasture-land, and kept her away from the rest of the herd. A more thankful cow you never saw; she followed me all about while I was building the fence. When the work was done, she seemed to understand all about it. She came and laid her head on my shoulder, and in her dumb way tried to thank me. All the time I was doing the work I kept repeating the word "fence." Each time I said "fence" I would point to a strand of wire. After she was fenced by herself she grew fat and gave milk by the gallon. She was very happy.

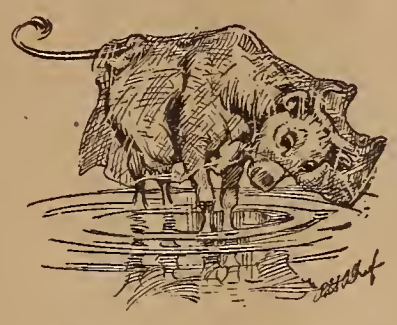
One day I noticed that it made no difference with Vick whether the gates were open or not; she never left the pasture. I thought that I would try her, so I took down all the wire except one strand on the side next to my garden. I called her, and pointing to that one strand, I said, "Fence." Yes, sir, she understood, and never attempted to go under the wire nor reach for anything on the other side, although corn grew within a few feet of her fence.

Now I know that she reasoned this way. Mind you, I said reasoned; instinct had nothing to do with it. "He is my master; he is good to me; he wants me to stay in here, and therefore I will stay."

That cow would eat anything I might give her. I had to be very careful about the things which I threw into the orchard. One day she nearly killed herself eating some poisonous weeds which I had thoughtlessly thrown over the fence. She never touched the same things that grew in her run. But she reasoned that since I gave her corn, and the like, in that way, so anything which I threw over I intended for her to eat, and eat it she would, whether to her taste or not.

I ofter swung my hammock in the orchard, and always Vick would come on a run and lie down near me. There she would stay, contentedly chewing her cud, as long as I remained. One day a friend of mine happened along, and leaning up against one of the trees, he began to swing me gently to and fro. Vick watched the proceeding with interest, and after my guest's departure, she got up, and placing her head against the hammock cord, began to swing me.

"She had a tramp up one of the big apple-trees"



"Vick was proud of her mosquito-netting suit"

During fly-time I made her a complete suit of mosquito-netting. Proud? Well, she was the proudest cow I ever saw. She minced around the first day just trying to get a good look at herself. She would go out where the other cows across the creek could see her, and in all possible ways try to attract their attention. She put on airs and almost forgot to eat. A few days afterward I was working in the garden, when I noticed Vick trying to attract my attention. I went up to her. She held up one of her legs; the netting was muddy. I patted her head and called her a good cow, and turned to go, but that was not enough. She was not satisfied until I got some water and washed off the mud. Well, sir, the outcome of that matter was that I had to get two suits for her, and change every week.

"Placing her head against the hammock cord, she began to swing me"

One night I heard Vick bawling in a most unearthly manner. That was unusual, so I dressed, took my lantern, and went out. She had a tramp up one of the big apple-trees. If he started to come down she would rise up on her hind legs and strike at him. She had hit him once or twice and had frightened the poor wretch so that he was about ready to fall to the ground. I have no doubt she would have used him roughly had he done so. He told me that he had been prowling around the barn, looking for a place to sleep, when he heard Vick bawl. He had started for the fence, but she had been there first, and had driven him back into the orchard and up into the tree. The cow was as proud of her achievement as a young boy with his first pants.

One day there was a circus. The side of the barn had been plastered with gaudy posters of trick animals. I noticed that Vick spent a good deal of time looking at these. She would look, then shake her head, and sniff; then, sticking her tail straight into the air, would take a gallop around the orchard, but every time would end up in front of the posters. When the parade went past she was wild with excitement.

A few days later I was almost dumbfounded when I saw Vick walking on her hind legs. She was a little wabbly at first, but kept at it until she could walk as well that way as on four legs. She would come up to me, and placing one foot on my shoulder, would look at me with those soft hazel eyes, seeking my approbation. This new feat of hers started me to thinking. The next day I got some bones and went out into the orchard and executed a double shuffle in Vick's presence. She at once comprehended my desire. She began to dance. I tell you she made the dirt fly, and in a few days she had the art mastered, and could do it, too. I had one of my Scottish friends perform the Highland fling before Vick, and in less than a week she had that down in good shape.

I went down town and had some boxing-gloves made for her. I fastened these onto her fore feet, and putting on a pair myself, I taught her to box.

I advertised and commenced exhibiting in some of the large cities. We drew immense crowds and my pocketbook increased very rapidly. After several months Vick commenced to get tired of it. She never really grew accustomed to the crowds. She longed for her green pasture, with its murmuring brook. I took her back. She was happy again and I was satisfied.

Her ability to walk on her hind legs and to box made the other cows afraid of her. I at once taught her to drive the herd to and from pasture, and the way she would make them stand around was a caution.

At a good old age Vick died, the most learned cow of her age. To say that all of her accomplishments were the result of instinct and imitation were useless. She must have reasoned. I don't say that her thought processes were just the same as ours, but she was able to see the cause and effect of things and to draw conclusions.

These are only a few of her feats. Many other things she did which I dare not mention, for fear some one might accuse me of exaggerating the truth.

"Vick would stand on her hind legs to imitate the circus poster"

A Corner Just for Wit and Humor

A Bit Too Hasty

"I tell you I won't have this room," protested the old lady to the bell-boy who was conducting her. "I ain't a-goin' to pay my good money for a pigsty, with a measly little foldin'-bed in it. If you think that jest because I'm from the country—"

Profoundly disgusted, the boy cut her short.

"Git in, mum. Git in," he ordered. "This ain't your room. This is the elevator."—Everybody's Magazine.

Diverse Tactics

Both boys had been rude to their mother. She put them to bed earlier than usual, and then complained to their father about them. So he started up the stairway, and they heard him coming.

"Here comes papa up the stairs," said Maurice. "I'm going to make believe I am asleep."

"I'm not," said Harry. "I'm going to get up and put something on."—Canadian Courier.

He Couldn't Lose It

All flushed and breathless, the well-dressed young man picked up the hat he had been chasing down the street, and leaned against a lamp-post to rest.

Another, also breathing heavily, came running up and took the hat from him.

"I'm much obliged," he said.

"For what?"

"This is my hat."

"Where's mine, then?"

"Hanging behind you at the end of a string."

Then for the first time the young man remembered his hat-guard.—Success Magazine.

Why Chickens Don't Talk

The following conversation was overheard between two boys, aged seven and five:

"Joe, why can't chickens talk?"

"Aw, they don't have to; when they wants anything they just pull their wishbones and they gets their wish."—The Delineator.

Mary's Animal Show

Mary had a little lamb—
'Twas Persian—on her coat;
She also had a mink or two
About her dainty throat;
A bird of Paradise, a tern,
An ermine made the hat
That perched at jaunty angle
On her coiffure, largely "rat."
Her tiny boots were sable top,
Her gloves were muskrat, too,
Her muff had heads and tails of calf,
The "critters" in the Zoo,
And when she walked abroad, I ween,
She feared no wintry wind;
At keeping warm, 'twas plain to see,
She had all Nature "skinned."
—Lippincott's.

Inconsistent Woman!

How inconsistent the women are;
They'll shriek and scream at mice,
And then go 'round with large-sized rats.
And think them very nice.
—Life.

This Atlas

FOR OUR READERS WITHOUT COST

At last Farm and Fireside has been able to obtain a splendid, comprehensive Atlas of the World, which it now offers to its readers for a limited time, absolutely without cost.

106 Pages,
70 Colored Maps,
Flags of All Nations,
Biographies of Our Presidents.

What You Will Get

By our special arrangements you can obtain the famous Hammond's Handy Atlas of the World without one cent of cost, if you act at once. We have secured for our readers the latest 1909 edition of this great Atlas, which is just off the press, revised up to date. This volume contains 106 pages, 6 by 8 inches in size, and is bound in substantial and attractive red cloth. There are 70 full pages of maps, containing new maps of each state and territory in the United States, and every country in the world. Special maps show the important ship routes, the distances between ports, also the latitude and longitude of every place in the world. The flags of all nations are shown in their real colors, and a gorgeous display they make.

In addition to all the maps showing the location of countries, towns, rivers and mountains, this valuable Atlas and handbook contains a brief accurate biography and the portrait of every president of the United States, including William Howard Taft, who was inaugurated on March 4th. There is a list of all the most important cities of the world, with the population of each, including every city in the United States with a population of 10,000 or more. The book contains a full-page map of the Panama Canal, with a profile map showing just how the canal will be built, together with full description of the canal. An interesting section of the Atlas is a description of each of the great land-reclamation projects of the country. Nearly fifty of these great irrigation undertakings are described. They mean the making fertile of a million and more acres of land in the Western states. A large map shows where each of these irrigation sections is located.

How to Get It

Send us two subscriptions to Farm and Fireside, and we will send you the Handy Atlas, free of charge, with postage prepaid by Farm and Fireside. The subscriptions may be either new or renewal. One of the subscriptions may be your own. Either subscription may be a one-year subscription at 35 cents or a two-year subscription at 50 cents.

FARM AND FIRESIDE
SPRINGFIELD, OHIO

This Offer Will Be Withdrawn. Act at Once.

OUR YOUNG FOLKS' DEPARTMENT

Our Boys' and Girls' Own Work

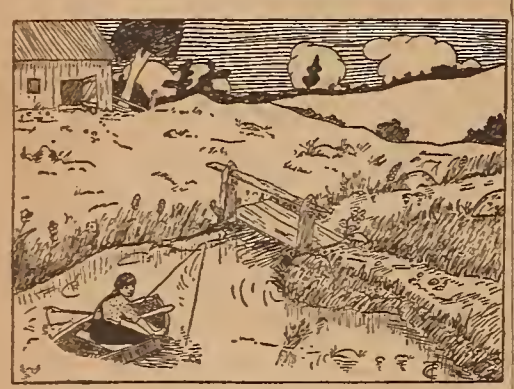
In the Woods

HURRAH! We're in the woods again!
We breathe the fresh, pure air,
And see the trees, so full of leaves,
The trees once brown and bare.
BESSIE I. MILLER, Age Thirteen,
Dodgeville, Ohio.

Raindrops

PRETTY little raindrops,
Falling down so fast,
Giving earth its moisture
To make the flowers last.

Pretty little raindrops,
On the window-pane,
When the flowers are thirsty,
Come, come again.
VIRGIL GILMORE, Age Eight,
Kinsman, Ohio.



By Clifford Thompson, Age Fifteen, Quitman, Missouri

April Fairies

UP THE rocky mountain,
Down the shady roads,
We do not go a-walking,
For fear of little toads.
Brown toads, green toads,
Hopping all together,
Wee toads, big toads,
In every kind of weather.
ANNA C. BARNES, Age Thirteen,
Wellsville, New York.

A Fairy-Tale

THE tiniest of fairies crept out of a rose,
I wish I'd been there, don't you?
She washed her face and she bathed her toes
In a pool of sparkling dew.

And then she put on her daintiest dress
Made of harebell blue;
With a daisy petal she combed each tress—
I'd like to have seen that, too.

A crimson toadstool was her seat,
Attended by goblins two;
She ate her breakfast of honey sweet—
I like it myself, don't you?

But what she did next I cannot say,
Or what she was going to do,
For she spread out her wings and fluttered away—
Oh, I wish she had stayed, don't you?
SUSAN JANE NULL, Age Eleven,
Kenton, Ohio.

April Fairies

I KNOW an April Fairy,
A bright and smiling one;
He is so warm and merry
Until his work is done.

Another April fairy,
We love her e'en as well,
For it is she who sends the diamonds
That sparkle in the dell.

Now can you guess the secret?
Each is useful in its way,
For it takes them both to make
A truly April day.
LILLIAN S. DRAKE, Age Fifteen,
Huntingdon, Pennsylvania.

Tom's Bravery

"I KNOW I shouldn't have done it, mother," said Tom, "but when I saw how cruel Jake was to that cat, even though it was his own, I—well, I just couldn't control myself, and pitched into him. But I'll beg his forgiveness, but not just yet; I'm too angry. I must wait until I feel more friendly toward him. I'll go out and pick those blackberries, and by that time perhaps I will have forgotten."

Tom Lawson picked up the berry-basket, and with a "Good-by, mother," he started for the berry-patch, about a mile from his home.

He had been picking about ten minutes before he realized that there was some one else in the field. A hissing sound, something like a whistle, evidently coming from the center of the field, made him straighten up and look about him. Out of natural curiosity he hurried to the wild-apple tree from whence the sounds seemed to come. And when he was within three feet of the tree he saw Jake Carter, who called to him in a trembling voice, "For goodness sake, Tom, kill this snake, and I'll never get angry at you again as long as I live." Forgetting all about his unfriendly feeling toward Jake, he picked up a heavy stick, struck the reptile a heavy blow on the head, and killed it.

Fifteen minutes later the two boys were picking berries and putting them into the same bucket. They laughed over their childish quarrel, and after that were the best of friends and pals.
ANNA L. FLORY, Age Fourteen,
Shoff, Pennsylvania.

April Showers

THE April raindrops pattered down
On a clouded day;
They came to see what they could do
To make the old world gay.

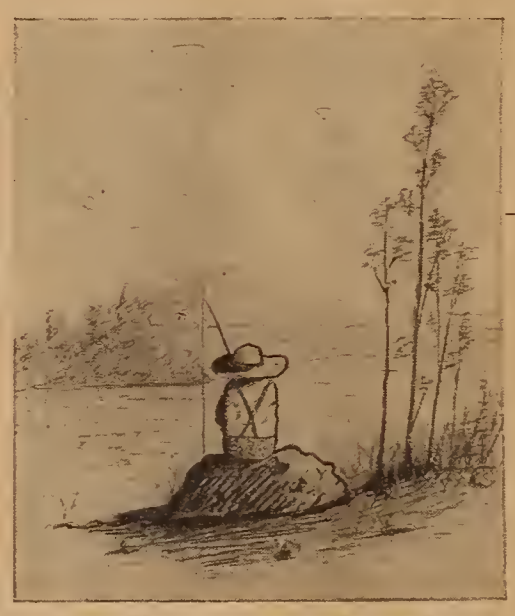
They danced and pattered upon the roof
And on the window-pane;
Oh, isn't it jolly, boys and girls,
To see the first spring rain?

Dear little raindrops, happy and bright,
Doing your work to-day,
Glad when you see the little flowers
Spring up by the roadside way.
MYRTA WIDMOYER, Age Ten,
Emerado, North Dakota.

The Ball of the Fairies

THE night before Easter had come. The silvery moon looked down upon the still earth, and the stars came out one by one. The air was soft and balmy, and flowers, flowers were everywhere.

Upon a large velvety lawn a tiny throne had been erected and almost entirely surrounded with flowers. Soon a charming fairy, dressed like a herald, stole from his hiding-place in a lily, and putting his horn to his mouth, blew a shrill blast. In a moment the lawn was full of tiny fairies dressed in the most gorgeous colors. Each one carried a basket of beautifully-colored eggs and hid them in little out-of-the-way places. A little carriage drawn by twenty bees drove up, and the Queen of the Fairies stepped out. Attended by her two pages, she ascended the tiny throne. After receiving the homage of her people, she said, "Now the dancing may commence." The orchestra, composed of bees, crickets and frogs (who played the drum), seated themselves upon some flowers, and the music struck up. Round and round the dancers flew, and even the dainty little Queen joined in. They danced to their heart's content until the moon went down and the morning dawned fair and sweet. Then the fairies bore the Queen to her carriage, and in the twinkling of an eye the lawn was deserted. Easter morning the children came with glad cries and found the eggs the fairies had left. When they found the ring around which the fairies had danced, they said to one another, "The fairies have indeed been here."
RUTH MCQUILKIN, Age Thirteen,
Millport, Ohio.



By Paul R. Loomis, Age Twelve, Salamanca, New York

The Brook

I LOVE to watch it as it flows
Among the moss and fern;
By many a hill and bank it goes,
By many a curve and turn.

And when I think how far it's flown
By brier, bush and scaur,
It's the prettiest brook I've ever known,
I'll love it forever more.
MINNIE SLOOTMAKER, Age Twelve,
Coopersville, Michigan.

By Irene Charest, Age Fourteen, Waldron, Washington

Morning

FAIREST time of all the day,
All the song-birds sing their lay,
Ere the sun has risen high,
In the blue, unclouded sky.

The farmer's son hurries about
With sprightly whistle and merry shout,
Doing his chores with a hearty will,
Refreshed by the air of the morning still.
EDNA P. MIZER, Age Twelve,
New Comerstown, Ohio.

Violets

VIOLETS coming in the spring,
When the birds begin to sing,
With a holy purple bloom
And the sweetest of perfume.
Oh, what joy you do impart
To the tired and aching heart.
HARTER F. WRIGHT, Age Fourteen,
Sims, Virginia.

Song of the Brook

THE glorious spring is here once again;
I know by the songs of the robin and wren.
I see the trees budded, I see the grass grow,
As smoothly and steadily onward I flow.

I was born among hills of rocks and of sand;
I flow through valleys and rich meadow land;
Then through a woods, where the pine-needles fall
From the great giant trees, stately and tall.

I see the sun's setting and see the sun rise,
I see every change of the crystal blue skies,
And the fleecy clouds sailing along as I flow
Look down at the image reflected below.
IONE M. REHM, Age Fourteen,
Meriden, Connecticut.

Prize-Winners in April 10th Contest

Ruth McQuilkin, age thirteen, Millport, Ohio. Anna L. Flory, age fourteen, Shoff, Pennsylvania. Minnie Slootmaker, age twelve, Coopersville, Michigan. Edna P. Mizer, age twelve, New Comerstown, Ohio. Paul R. Loomis, age twelve, Salamanca, New York. Eulalee Winemiller, age ten, Parnell, Missouri.

Honor Roll

Roy E. McAdams, age thirteen. Samuel A. Terrel, Jr., age fourteen. Margaret Martin, age thirteen. Vesta J. Sparks, age fourteen. Lowell Beatty, age nine. Nellie S. Leonard, age eleven. Violet Chilton, age nine. Alice Thomas, age ten. Angie Smith, age eleven. Gertrude Scott, age eleven. Ellen Gustin, age thirteen.

Post-Card Exchange

Jessie Seager, age fourteen, Jefferson, Ohio. Freda M. Lang, age eleven, R. F. D. No. 59, West Middlesex, Pennsylvania. Edna Larimore, age twelve, Plainville, Illinois. Grace J. Chippendale, age twelve, Somerville, Ohio. Dora Clark, age thirteen, R. F. D. No. 1, Glade Spring, Virginia. Calla M. Lewis, age fifteen, R. F. D. No. 1, Box 63, Woodstock, Vermont.

Cousin Sally's Letter

Then the little Hiawatha
Learned of every bird its language—
Learned their names and all their secrets,
Where they built their nests in summer,
Where they hid themselves in winter.
—Longfellow.

DEAR BOYS AND GIRLS:—

Recently I spent the day with a little friend of mine who lives in the country, and it was one of the happiest days I have had in a long, long time. It was so good to be out in the warm, golden sunshine, picking wild flowers, and then resting by the brook, listening to the twittering and singing of the birds. How delightful the country is at this time! I thought of you all as I sat talking with my little friend, Louise, and quite envied your healthful out-of-door life.

Louise is just fourteen years old. She is very animated and full of fun, and is a great lover of the birds. As we sat by the bank listening to the birds we took turns guessing the names of the different little songsters. When I wasn't looking Louise whistled a few sweet notes, and she laughed mischievously when I remarked, "Listen, dear, to that sweet little robin." I was amazed at the clever way in which she had imitated Robin Redbreast. About a week before winter has broken, Louise gets her father to nail up her three box-houses, which he made especially for the birds. She puts one under the eaves in the barn, another under the cow-shed and one in the orchard. You may be sure that the houses do not remain untenanted very long. Late in March Mr. and Mrs. House Wren go house-hunting, and being favorably impressed with the capacity and convenience of Louise's house, lease it for the summer without further searching. And in a short while the other two houses are rented.

Every boy and girl should know the different birds. Now that these delightful, sunshiny days are here, you must put aside your books and go out into the woods and fields and study Nature. You will learn many things if you will but keep your eyes open. Listen sharply to each note the birds sing. If it comes from a distance, see if you can follow the sound to its source. This may necessitate your jumping fences, wading brooks or climbing trees in order to get a glimpse of the bird, but this is all healthful exercise and will do you a world of good.

When ex-President Roosevelt was a boy he was not healthy and strong as he is to-day, and his anxious parents encouraged every interest he showed in outdoor sports. Perhaps his greatest pleasure was studying the birds. Like little Hiawatha, he knew the language of every bird, and knew the haunts of every species around his home.

So I wish, boys and girls, that you would become acquainted with the birds. Your interest in them will train your ear quite unconsciously. They are great friends to the farmers, even though there are certain ones that do damage to the crops. All of you know the pretty little ruby-throated humming-bird. It is the smallest bird there is. What a joy it is to see it flit from flower to flower, sipping nectar as it goes, and then flying off out of sight. If you should pluck out all its feathers, as you would a chicken's, how large do you think the body would be? Why, not much, if any, larger than a big bumblebee. Even though it is a tiny bird, it can travel almost as far as its sister birds. Every year it travels from Panama to Quebec or beyond, and back again.

The birds are great friends to us, so we must always treat them kindly. They are most appreciative, and if you will invite them to visit your neighborhood, they will return season after season to cheer you with their glad, sweet songs.

Write to me soon. Tell me if you were pleased to see your work published. As ever lovingly, COUSIN SALLY.

Sunday Reading

The Shepherd and the Sheep

THERE are sheep grazing on the hillside, and the scene makes a picture which my window frames effectively. It is a summer scene, a landscape which only the brush of a master artist could transfer to canvas. The sunlight brings out the green of the fields, and there are a few graceful elms, some fleecy clouds overhead, to veil the blue of the sky, and in the distance the placid, contented sheep as motionless as—as a picture. There are lambs in the flock, lambs that appeal to you because they are so gentle and woolly and helpless; there is a good deal of sentiment about the lambs, possibly more than lingers about anything that belongs to the stock production of the farm.

Tending sheep was a very popular vocation in Bible times in the countries the Bible tells about, and many of the best people written about in the Bible tended sheep, and were not ashamed of their calling. Times were slower then than they are now, but even at that time there could have been no special excitement about it, unless one of the sheep should stray away from the flock or a wolf should visit the fold.

Shepherds must certainly have had standing recognized in High place, for the angel messenger bearing tidings of the Christ-child appeared first to the shepherds who watched their flocks by night, bringing the wonderful greeting of love and peace. Shepherds figure in the strongest metaphor of the Bible. The finest of all the Psalms is the twenty-third, all about the Shepherd and the sheep. David tended the sheep before he was called to be the king and to establish the greatest dynasty of history, for the Christ-child belonged to the family of David.

Sheep are such quiet, stupid creatures—just like the duties of one's every-day life, and duties, like sheep, are all very much alike. Your sheep are very much the same as mine, and the only difference lies in the shepherds themselves. You may be the better shepherd because you neglect none of yours; in the heat of summer and the cold of winter you are always at your post, never failing in vigilance and caution, but living up to the responsibility of every hour.

There are sure rewards to shepherds who tend their sheep faithfully when they long to be doing something else; when they see their days gliding swiftly by, and no glory attending their effort; shepherds who, like David, hear the bugle-call to war, and scent the battle-smoke and long to desert the stupid old sheep—and yet stand by them, because duty holds. Yes—there must come a reward some time.

David played on the harp while he tended the sheep, thus signifying his good cheer, patience and content with his humble employment. Afterward he wrote the Psalms that are chanted in church on Sundays, and are used also for responsive reading, and are full of that personal element that reminds you of your own affairs, your enemies and your sure triumph over them, and contain gratifying promises that thrill you, and give you a sense of security you dare not mention.

All weary shepherds should take courage when they consider what David had in store for him. How must he have felt when he was called from his humble task to fill a greater position! The quiet years, uneventful and dragging, had contained the discipline and development required for his later years. Even the fidelity to his task, and the courage with which he resisted temptation when some one said to him that he was wasting his time, were a part of the discipline that strengthened him and prepared him for his great future. HARYOT HOLT DEY.

Religious News Items

The Salvation Army reports 4,765 ministers, 1,016 churches and 28,000 members in the United States.

The American Bible Society has in stock or can procure for missionary work in the United States, scriptures in one hundred and twenty-two languages and dialects. Some of these languages being rare in this country, the translations are ordered from abroad when called for.

The Methodist Episcopal Church has had remarkable success in its work among the Germans, Swedes, Norwegians and Danes in the United States. This success is due to the fact that the church has sent preachers and teachers of their own nationalities to be leaders among these people.

Christian Character

OUR best actions are often those of which we are unconscious; but this can never be unless we are always yearning to do good.

In my garden at the west I used sometimes to notice that the finest heads of lettuce were not in the beds, but on some southern ridge, where they had chanced to grow. It seemed as though random seeds did the best, from a kind of wild emulation; but they never grew without the sowing, and the chance-sown seed was never wild.

If you shake the tree you can bring down the fruit, no doubt; but I remember, when a boy, the persuasion to get early out of bed was the thought of the large white apples that lay beneath the trees, awaiting the first comer—they had dropped upon the grass in the silent night, almost without a breath of wind to stir the branches. Now, I think every man ought to carry his boughs so full of fruits that, like the apples which drop from silent view, they will fall by the way of their own ripeness for whoever needs to be refreshed. We should go home to the threshing-floor like a great harvest-wagon full of sheaves, which at every jolt casts down ears for the gleaners, and stray seeds for the birds, and now and then a chance handful, which, blown by winds into nooks and corners, comes up to grow and to bless another generation.—Henry Ward Beecher.

Thoughts

Do you know that your thoughts rule your life,
Be they pure or impure in the strife?
As you think, so you are;
And you make or you mar
Your success in the world
By your thoughts.

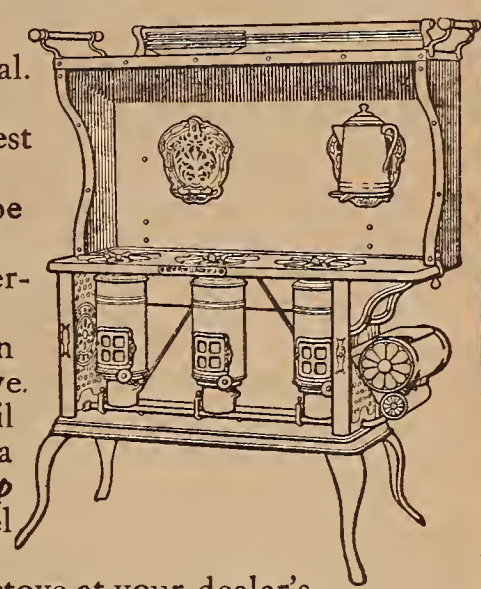
Are your thoughts just and true every hour?
Then your life will attest with great power.
If it's love fills your heart,
Then hate must depart;
You will find all success
In good thoughts.

Are you kind in your thoughts toward all?
Then but kindness to you must befall.
As you sow, so you reap,
In a measure so deep,
Either pleasure or pain,
By your thoughts.

USE A

NEW PERFECTION

Wick Blue Flame Oil Cook-Stove



Because it's clean.
Because it's economical.
Because it saves time.
Because it gives best cooking results.
Because its flame can be regulated instantly.
Because it will not overheat your kitchen.
Because it is better than the coal or wood stove.
Because it's the only oil stove made with a useful *Cabinet Top* like the modern steel range.

For other reasons see stove at your dealer's, or write our nearest agency. Made in three sizes. Sold with or without Cabinet Top.

The **Rayo Lamp** cannot be equaled for its bright and steady light, simple construction and absolute safety. Equipped with latest improved burner. Made of brass throughout and beautifully nickeled. An ornament to any room, whether library, dining-room, parlor or bedroom.

Write to our nearest agency if not at your dealer's.

STANDARD OIL COMPANY
(Incorporated)

WANTED--A RIDER AGENT IN EACH TOWN and district to ride and exhibit a 1909 Model "Ranger" bicycle furnished by us. Our agents everywhere are making money fast. *Write for full particulars and special offer at once.*

NO MONEY REQUIRED until you receive and approve of your bicycle. We ship to anyone, anywhere in the U. S. *without a cent deposit* in advance, *prepay freight*, and allow **TEN DAYS' FREE TRIAL** during which time you may ride the bicycle and put it to any test you wish. If you are then not perfectly satisfied or do not wish to keep the bicycle you may ship it back to us at our expense and *you will not be out one cent.*

FACTORY PRICES We furnish the highest grade bicycles it is possible to make at one small profit above actual factory cost. You save $10 to $25 middlemen's profits by buying direct of us and have the manufacturer's guarantee behind your bicycle. **DO NOT BUY** a bicycle or a pair of tires from *anyone* at *any price* until you receive our catalogues and learn our unheard of *factory prices* and *remarkable special offers* to **rider agents.**

YOU WILL BE ASTONISHED when you receive our beautiful catalogue and study our superb models at the *wonderfully low prices* we can make for 1909. We sell the highest grade bicycles for less money than any other factory. We are satisfied with $1.00 profit above factory cost. **BICYCLE DEALERS,** you can sell our bicycles under your own name plate at double our prices. Orders filled the day received.

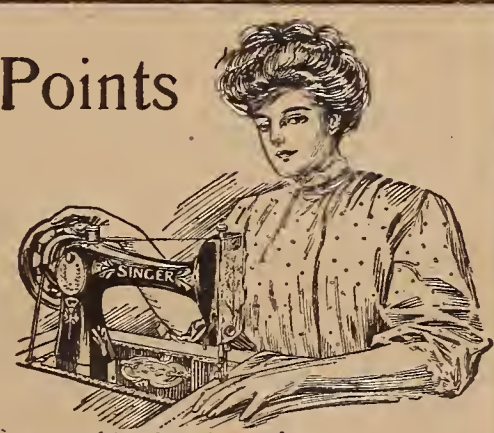
SECOND HAND BICYCLES. We do not regularly handle second hand bicycles, but usually have a number on hand taken in trade by our Chicago retail stores. These we clear out promptly at prices ranging from $3 to $8 or $10. Descriptive bargain lists mailed free.

TIRES, COASTER-BRAKES, **single wheels, imported roller chains** and **pedals,** parts, repairs and equipment of all kinds at *half the usual retail prices.*

DO NOT WAIT, but write today and we will send you **free** by return mail our **large catalogue,** beautifully illustrated and containing a great fund of interesting matter and useful information; also a *wonderful proposition* on the first sample bicycle going to your town. It only costs a postal to get everything. **Write it now.**

MEAD CYCLE COMPANY Dept. M-83 CHICAGO, ILL.

Consider These Points
Before Buying
A
Sewing Machine



Do you know how long that cheap sewing machine is going to last?
Did your grandmother or mother have one?
What sort of work is that unknown machine going to do when put to the every-day, every-week test?
What are you going to do if it gets out of order?
Suppose it should spoil an expensive gown or frock?
These questions show some of the chances you take with unknown, obscure, cheap or "club plan" sewing machines.
It's ten to one your grandmother and mother used a SINGER—it's probably in use yet.
Be sure of your machine *before* you buy it.

Try a Singer at our expense and be sure

You can get a brand new SINGER in your home free of all charges.
You give it a fair trial.
If you want to keep it—terms arranged to please you.
If you don't want to keep it—it will be taken back at our expense.
Just write for the free booklet, "A Wireless Message from the Singer Tower."

Address

SINGER SEWING MACHINE COMPANY,
ROOM NO. 1130 SINGER BUILDING, NEW YORK.

SINGER SEWING MACHINES

NEW YORK
Fashions

If you want to have your clothes have a New York air about them, use

Madison Square Patterns

They are the most distinctive patterns made. The designs are exclusive, up to the moment, and yet they make wearable clothes.

The patterns are not sold in stores. They are exclusive. You can obtain them only by ordering direct from the Pattern Department of FARM AND FIRESIDE.

The New Summer Catalogue of Madison Square Patterns will be ready for distribution June 20th. It is filled with beautiful illustrations of all that is newest and best in the summer fashions.

If you want the Catalogue, send your order at once to the Pattern Department and inclose in your letter two 2-cent stamps (four cents).

Pattern Department
Farm and Fireside
11 East 24th St., New York City

THE
Embroidery Book
For 1909

By Evelyn Parsons

A HANDSOMELY illustrated forty-page book containing all the newest ideas in needlework, with full directions for working, is now ready for distribution. The designs include gowns, tub-dresses, shirt-waists, hats, neckwear, lingerie, baby-clothes, all kinds of household linen, curtains, sofa-cushions, etc., etc. Order at once, as the edition is small and will soon be exhausted. Ready for mailing June 1st.

Sent Post-paid on Receipt of Ten Cents

Address
Embroidery Book,
FARM AND FIRESIDE
Madison Square,
New York City

Miss Gould's Fashion Bureau

Convenient Little Helps Worth Knowing About

THE helpful little contrivances and the easy-to-adjust little dress necessities are some of the small things that tend to make the busy woman's days run smoothly. They are time-savers and space-savers, to say nothing of strength-savers, and their effect on dispositions is well worth considering.

Trite as the saying is, there is nothing like having the right thing in the right place at the right time. The busy woman who has much sewing to do surely realizes this and she cannot fail but be interested in something new in the way of a compact sewing-stand. It is a most complete little article and yet it costs but twenty-nine cents. It has a flat box for its foundation, fitted with uprights for the holding of spools and a darner. The case will hold twelve spools. At one side is a ring which is large enough to form a case for a thimble, and at the other side is a hook to which a small pair of scissors may be attached. Every woman knows all about the trouble she has when she wants her tape-measure in a hurry and never can find it. This little sewing-stand does away entirely with this worry, for pasted on the base is an inch rule, which is most convenient for measuring a hem or the width of a facing. The box may be used for the safe-keeping of all the little things a woman needs when sewing, such as hooks and eyes, needles and pins, a bodkin, an emery, a bit of French chalk, etc.

Compact, Combination Sewing-Stand—a Time-Saving Device

Of course you have had troubles of your own in making your collars stand up as they should and yet not have the supporter hurt you. Perhaps you have tried the celluloid collar-supporters and know how good they are because they do not show through the transparent collars, but no doubt you have realized that it was impossible to sew hooks and eyes through them at the back, and it is at the back where you need the supporter as much if not more than anywhere else. Now, to obviate just this difficulty, something new has been brought out in the way of an invisible boning for the back of a collar which is made with hooks and eyes set right in the supporter, so that when you tack the supporter in your collar you have the hooks and eyes all ready for use. Surely this is a convenience. You can buy three sets, enough for three collars, on one card for nine cents. These new supporters come in three sizes, so they are apt to be the right height for most any neck. They bend easily, but no not break, and one of their best features is that they can be washed right in the collar and the hooks and eyes will not rust. Another collar convenience is the foundation with ruching attached.

Adjustable Elastic Shirt-Waist Belt With Skirt-Hook and Safety-Pin Attachments

Invisible Collar-Supporters With Set-In Hooks and Eyes

These foundations are of boned chiffon, the bones running up and down at the sides and at the back, and at an angle in front, while the bottom and top of the foundation are bound with a soft tape. These collar-foundations with ruching attached cost ten cents. They will be found extremely useful for lingerie waists where the collars are so soft and filmy. The foundation can be used to the best advantage if the lower part is just basted to the base of the collar with which it is to be worn.

Shirt-Waist Extender With Shoulder Ruffle

Collar-Foundation With Ruching Attached

Now that shirt-waists have become such utility garments that there is very little chance of their ever going out of style, we have with us always the problem of how to keep them from riding up. The way a woman wears her clothes is often an index to that woman's character, and nothing so quickly interferes with that trim, smart look as the shirt-waist which bulges out at the sides and looks loose and baggy at the back. Now this keeping of the shirt-waist in place is no easy matter. All sorts of shirt-waist pins and fasteners have been devised for the purpose, and belts galore. Some have been fairly satisfactory and some have proved of no use whatever. Perhaps one of the most successful of the belts has been the adjustable elastic belt. Now we have this belt made up with many modern improvements. It is on the market to-day showing the adjustable elastic belt which can be adjusted to suit every size waist, and in connection with it there is a skirt-hook for holding the skirt down in front, and a well-made safety-pin for pinning the shirt-waist to the corset. This combination novelty works most successfully, and costs but nine cents. Another very simple method of holding the shirt-waist down is to attach to the back of the waist a narrow tape, long enough to be brought around and tied in front in a tight bow with two rather long loops. These loops are then pulled down with the shirt-waist and a safety-pin fastens them all to the corset. In this way the shirt-waist is secured firmly in front. At the sides and the back safety-pins may be used if they are needed.

Although these are the days when the slim woman has everything her own way so far as the fashions go, yet sometimes she does have a few troubles of her own. The way the dainty little ruffled shirt-waist extenders are selling in the shops proves that the slim girl feels sometimes the need of appearing stouter. A new lawn shirt-waist extender which is made with four lace-trimmed ruffles has for its novelty a much longer top ruffle, one that is shaped so that it comes up to the shoulders and fills in any hollows which are lurking about. The lower edge of the extender has a casing with a tape inserted, so that the fullness in the extender can be drawn to the center of the waist, or in fact adjusted as desired. These extenders are made of a good quality of lawn. They can be bought for thirty-nine cents.

If your closet-room is limited, then you want to know about a new clothes-hanger which will increase the capacity of your closet-hooks, just fivefold. It can hang on any closet-hook. It occupies no more wall space than the average single coat or skirt hanger, and yet it is provided with five hooks, thus taking care of five garments instead of one, and each garment can be removed from the hanger without disturbing the others. To keep skirts in the best shape, so they will not wrinkle, two of these new hangers should be used, and in this way five skirts can be cared for without crushing. This novel hanger costs but twenty-four cents. It is also a useful article to slip into one's suit-case or trunk when traveling, as well as a convenience in the home closet.

It makes a rather novel gift, too, if you happen to need some little thing to send as a present, as a birthday remembrance, for instance, to your neighbor. In sending it as a gift, be sure to cover the rods with cotton wadding and then some pretty shade of silk. It can serve the double duty of being a sachet as well as a clothes-hanger if between the layers of cotton wadding a sachet is thickly sprinkled before the silk is put on. The hooks can be covered with narrow ribbon the same color as the silk braided back and forth.

If you want to look well you must stand straight. There is nothing which makes a woman look old quicker than stooped shoulders. When sewing and doing housework it's a temptation to stoop, and when one is tired it is the easy posture. To prevent stooping and becoming round-shouldered there are any number of shoulder-braces. The majority of them, however, are quite expensive, costing anywhere from three to six dollars. There is a brace, however, which sells for fifty-four cents. It is a skeleton shoulder-brace, cool and comfortable to wear, and takes up very little space. It is made for men, women and children. The back of the shoulder-brace is of a perforated fabric, which makes it light and cool and especially desirable to wear during the summer.

Space-Saving Clothes-Hanger for Holding Five Garments

Another new summer dress convenience which is almost a necessity is a silk shield, having the novelty of an absorbent edge. This edge absolutely prevents the perspiration from running over the shield. The woman who perspires profusely knows all about the trouble she has ruining her different summer gowns under the arm. To her this shield should be indeed invaluable. It is made in such a way that the edge of absorbent cotton cloth is invisible and in no way does it interfere with the perfect fit of the shield.

The shields come in different sizes and vary in price from twenty-four to thirty-three cents a pair. Cotton shields, which are much cheaper than the silk, can be bought with an absorbent edge. According to the size, they vary in price from nineteen to twenty-four cents.

These little novel conveniences can be bought at the New York shops. None of them cost over forty cents and each in its way is not only a real convenience, but a time-saver.

Miss Gould will be glad to answer any questions regarding the articles illustrated on this page. She cannot make any purchases, but will send the addresses of the firms where the articles can be bought, provided a stamped and self-addressed envelope is inclosed. Do not send your orders direct to Miss Gould, but write for the addresses, and then order from the shop. Direct all letters to Miss Gould's Fashion Bureau, care of Farm and Fireside, 11 East 24th Street, New York City.

Smart Summer Styles

Madison Square Patterns

TEN cents will buy a complete working pattern of any design shown on this page. Send orders to the Pattern Department, FARM AND FIRESIDE, 11 East 24th Street, New York City.

The Summer Style Book of Madison Square Patterns will be out June 20th. If you want to know all about summer fashions, send in your order at once for the Style Book. Inclose four cents in stamps and send your order to the Pattern Department.

How to Get Patterns Without Cost

We will send you two of FARM AND FIRESIDE's Madison Square Patterns, without cost, if you will send us two subscriptions to FARM AND FIRESIDE. One of the subscriptions may be your own. Either subscription may be for one year at thirty-five cents or for two years at fifty cents. You may choose any two patterns shown on this page or in any other issue of FARM AND FIRESIDE. Send your order to the Pattern Department, FARM AND FIRESIDE, 11 East 24th Street, New York City.

No. 1306—Semi-Fitted Cutaway Coat

Pattern cut for 34, 36, 38 and 40 inch bust measures. Quantity of material required for medium size, or 36 inch bust, three and one half yards of thirty-six-inch material, or two and three fourths yards of forty-four-inch material.

This coat would look charming for summer wear made of any of the rough silks or linen trimmed with cotton soutache braid in the same shade and cotton crochet buttons.

No. 1327—Empire Graduating-Dress

Pattern cut for 12, 14 and 16 year sizes. Quantity of material required for medium size, or 14 years, seven yards of twenty-two-inch material, or five yards of thirty-six-inch material, with one half yard of tucking for yoke and collar.

This pretty graduating-dress would look most fetching developed in all-over embroidery, net, silk muslin or white organdie.

No. 1183—Shirt-Waist With Plain Sleeves

Pattern cut for 34, 36, 38, 40 and 42 inch bust measures. Quantity of material required for medium size, or 38 inch bust, four and one eighth yards of twenty-two-inch material, or three and one eighth yards of thirty-six-inch material.

Cotton fabrics showing a colored stripe are very much used at present. This waist would look especially attractive developed in a striped material.

No. 1331—Waist With Dutch Neck

Pattern cut for 34, 36, 38 and 40 inch bust measures.

No. 1332—Tunic Skirt With Flounce

Pattern cut for 24, 26, 28 and 30 inch waist measures.

No. 883—Plaited Empire Morning-Jacket

Pattern cut for 32, 36 and 40 inch bust measures—small, medium and large. Quantity of material required for medium size, or 36 inch bust, four yards of twenty-two-inch material, or three yards of thirty-six-inch material.

This pretty morning-jacket may be made of dimity or lawn. The velvet ribbon which trims the front of the jacket gives it the new Empire effect.

When ordering any of the patterns illustrated on this page, be sure to comply with the following directions: For ladies' waists, give bust measure in inches; for skirt, give waist measure in inches; for misses or children give the age. Be sure to mention the number of the pattern you desire.

No. 627—Plain Princess Wrapper

Pattern cut for 34, 36, 38, 40 and 42 inch bust measures.

No. 1257—Circular Skirt With Plaited Panel Front

Pattern cut for 24, 26, 28 and 30 inch waist measures.

No. 1324—Princess Dress Buttoned in Front

Pattern cut for 32, 34, 36, 38 and 40 inch bust measures.

Copyright, 1909, by The Crowell Publishing Company

THINK HARD
It Pays to Think About Food

The unthinking life some people lead often causes trouble and sickness, illustrated in the experience of a lady in Fond Du Lac, Wis.

"About four years ago I suffered dreadfully from indigestion, always having eaten whatever I liked, not thinking of the digestible qualities. This indigestion caused palpitation of the heart so badly I could not walk up a flight of stairs without sitting down once or twice to regain breath and strength.

"I became alarmed and tried dieting, wore my clothes very loose, and many other remedies, but found no relief.

"Hearing of the virtues of Grape-Nuts and Postum, I commenced using them in place of my usual breakfast of coffee, cakes, or hot biscuit, and in one week's time I was relieved of sour stomach and other ills attending indigestion. In a month's time my heart was performing its functions naturally and I could climb stairs and hills and walk long distances.

"I gained ten pounds in this short time, and my skin became clear and I completely regained my health and strength. I continue to use Grape-Nuts and Postum for I feel that I owe my good health entirely to their use. 'There's a Reason.'

"I like the delicious flavour of Grape-Nuts and by making Postum according to directions, it tastes similar to mild high grade coffee."

Read "The Road to Wellville," in pkgs.

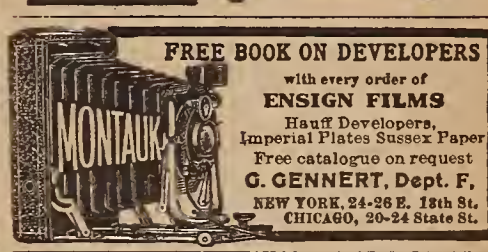
Ever read the above letter? A new one appears from time to time. They are genuine, true, and full of human interest.

DIRECT from FACTORY at Wholesale Prices, Freight Paid

We sell to you at the same price we would sell to the dealer—pay the freight besides. Stove polished, ready to set up, safe delivery insured. Then, after ONE YEAR'S TRIAL we refund your money if you are not satisfied.

Gold Coin Stoves and Ranges, standard for fifty years. Send for our Illustrated Stove Book, and our Special Summer Premium List, both free. Gold Coin Stove Co. 8 Oak St. Troy, N.Y.

You Save from $5.00 to $20.00



FREE BOOK ON DEVELOPERS with every order of ENSIGN FILMS Hauff Developers, Imperial Plates Sussex Paper Free catalogue on request G. GENNERT, Dept. F, NEW YORK, 24-26 E. 13th St. CHICAGO, 20-24 State St.

20 EXTRA FINE POST CARDS Silk Roses, Embossed Flowers, New Kiss and Love Series, Don't Worry, Greetings, Nature Flowers, etc. Cat. free. F.F. GROSS ONARD CO., 2147 Arthur Ave., N.Y. **10c**

Agents Wanted

AGENTS PORTRAITS 35c, FRAMES 15c, sheet pictures 1c, stereoscopes 25c, views 1c. 30 days credit. Samples & Catalog Free. Consolidated Portrait Co., 290—81 W. Adams Street, Chicago

JUST OUT Low priced, 3-lb Mop: turn crank to wring; hands keep clean. Women all buy; 150% to Agents; exclusive territory given; catalog free. U. S. MOP CO., 563 Main St., Leipeic, Ohio.

AGENTS. New Invention; never before sold in your territory; horse owners wild about them; automatic hame fastener sells at sight; coin money; a fortune in your territory; free sample to workers; write at once. Automatic Fastener Co., F342, Cincinnati, Ohio

You Agents- $96.00 per month selling this wonderful Lock Stitch Sewing Awl. One agent sold $24.00 worth in 5 hrs. Cleared $11.25. You can do as well. We show you how. Write for instructions and Agents FREE OUTFIT. ANCHOR MFG. CO. Dept. 15 Box 484, Dayton, Ohio.

$61.50 WEEKLY INTRODUCING and selling A GASLIGHT BURNER FOR KEROSENE LAMPS. Beautiful light, no chimney, durable, lasts for years. Fast seller, no risk, 900 per cent. profit. Experience not necessary. SAMPLES FREE. Beware of imitations. No branch offices. Address LUTHER MFG. CO. Dpt. 143 Cincinnati, O.

The first food of the day

Every man, woman and child begins the day with more or less vigor of mind and strength of body according to the first food supplied to the stomach. The best first dish of the day is a bowl of Quaker Oats. The stomach can assimilate it more quickly and with less effort than other foods. There is little or no waste and every ounce of food is converted into muscle, vigor and brain activity. The strongest people in the world are the regular eaters of Quaker Oats. You should eat it for breakfast every day.

The regular size package of Quaker Oats sells for 10c, the large family size package comes at 25c and 30c.

Betty's Broadway Motorman

[CONTINUED FROM PAGE 14]

clever about everything, when the well-trained maid created a diversion with the tea-tray.

"Now, my child, I can't hear of your going down to-night. Anyway, you must stay up for dinner. Tom would scold me if I let you go, and it's time for him any minute. Well, I declare, there he is."

Days, years and absence became nothing as the two pairs of hands clasped each other, and it was "Betty" and "Tresh" with a glad ring in their voices.

"Betty's going to stay, Tom, so when you've finished your tea you will have time to take her out and show her all the other improvements before dinner."

They sauntered down the box-bordered path. "Do you know, Betty, that '04 Prom was the last time I saw you?" said Tresh, plunging in.

"Really? I don't remember seeing you at all then," was the outwardly calm reply. "I believe at the time I thought you were not very polite," she added demurely, raising her brows a trifle.

"Polite?" said Tresh explosively. "I was boiling, seething, that night! I suppose I was a bear and a donkey rolled into one."

"I didn't see anything of it," laughed Betty gaily. "How did the translation take place?"

"Listen, Betty." Tresh came to a halt, and they turned and faced each other, screened from the house by the high hedge. "I had almost moved heaven and earth to get one dance with you—just one. Jim Gordon seemed to have the innings that evening, though. At the very last minute a cranky old uncle came along to see me graduate, and brought his daughter, a cousin I had never seen before, mind you. I was in an awful muddle, did all I could to fix things up for her, and by the time I had her provided for and launched, my uncle froze fast to me, and when I dashed off to look for you, the dance was on, and—well—you were off with Jim, who got more than his share."

"Oh, Tom, I see it all! Don't say another word!"

"Did you care, Betty?" said Tom, catching her hands and compelling her gaze. "I thought YOU DIDN'T, and that was all—"

They came in just in time to save their credit.

"Mother," said Tom, "Betty wants to tell you that she has promised to marry me, and then you tell her that I'm not only motorman 43008, but junior partner of the company. Moreover, that my delightful, cranky, old, rich uncle departed this world of sense and left me his second-best residuary legatee."

Honor Roll

Here are more of the FARM AND FIRESIDE Pony Contestants who have done so well that they deserve a place on the Honor Roll.

Arthur Griesemer
Ethel Miles
Paul Campbell
Doris Adams
Mrs. Clara Kessler
Iona Morton
Ralph Akin
Ralph Yarger
Lester Groves
Ray Brewer
Earl Crotinger
Martha Townsend
Millie R. Page
Hobert L. Fouts
Clarence Morley
Flossie Lanner
Lillian Stevens
G. Albert Stumpf
Johnnie A. Knox
Fred Roth
Ella Bendel
Ruth High
Emanuel Klingbeil
Mary Barry
Florence Carmany
Otis Nilson
Carl Slater
Alec Wright
Harrison Reynolds
Freda Langdon
Otis Key
Harold Rice
Clarissa Taggart
Willie Whitlock
Willie Smith
Herbert M. Rapelze
Ray Mitchell
Goldie Fowlkes
Freda Behring
Ralph Cain
Esther Olesen
Clayton Brough
Janie Ayers
Ray Steiger
L. A. Henshaw
Fannie Green
Richard R. Fargo
Etta Schofield
Lela Coil
Helen Shroyer
Mathias Carlsen
Peter Jensen, Jr.
Pearl Kingsbury
Bernice Sheldon
Leroy Cholseth
Myrtle E. Markley
Estella Sleeth
Ollie Ebersole
Dewey Powell
Ursula List
Margaret Cressler
Portia Smith
Hugh Olmsted
Marie M. Frantz
Josie Atwell
Theo. Werner, Jr.
Everett F. Gidley
Sako Ypma
Evalyn Taylor
Francis Teetsel
J. W. Spink
Harold Lundberg
La Verne Fulton
J. A. Martin
Ather Watkins
Jimmie Sanders
Ethel Sherwood
Pearl Hardenbrook
Clyde O. Roland
Alf. Erickson
Grace Greenwood
Percy Morton
Marion White
Ethel Blankinship
Mildred Wells
Richard Holm
Gilbert Taylor
Dayle Cox
Lilly Prout
Myrtle London
Catherine Messinger
W. C. Fielden
James W. Frey
Louise Boyd
Clyde Gelder
Floyd Orebaugh
Kathleen Bowman
Blanche Harcourt
Evan Arnold
Irene E. Bugg
Agnes Myer
Raymond Wanamaker
David Volkart
John Burk
Dan Beeler
James Wiley
Lizzie E. Dyke
Belle Waldrop
Ethel Westmorland
Martin Vogel, Jr.
Vernice Williams
Alice S. Ivie
Kate H. Harper
Elizabeth Edwards
Annie E. McCinston
Evan R. James
Harold Johnson
Fred J. Leasure
Henry Heath
Freddie Hurd
Marion E. Cutts
William Berger
Aubrey Birch
Phoebe Van Pelt
Francis Brecker

THE PONY MAN, FARM AND FIRESIDE

Things to Read Aloud

Ostrich-Farming

OSTRICH-FARMING will soon be one of the most interesting and profitable of our American industries. It is assumed that each of our Americanized ostriches will produce thirty dollars' worth of feathers per annum. The black feathers and the fine white plumes come from the male bird, the second-quality white and gray ones from the female. The best plumes come from the wings, the smaller ones from the tail, and both wings and tails produce the smaller ones, which are used to makes boas, etc.

Cape Colony contains some three hundred thousand ostriches and exports in round numbers seven million dollars of feathers a year. Nearly one fifth of these come to America.

There are also ostrich-farms in Egypt, Argentina, Australia and New Zealand. Even the small rancher is going into the business. A pair of birds can be kept on one acre of irrigated land set to alfalfa, and ostriches require very little care. In fact, one man can take care of one hundred birds except at plucking-time.

There are about five hundred ostriches in California, divided among eight farms. There is one in Hot Springs, Arkansas, another in Jacksonville, Florida, and another in Oregon.

Automobile-Killing

THERE have been so many people killed by automobiles in the streets of New York City within the last fifteen months that stringent measures are now being adopted to enforce the speed ordinance.

The situation is becoming so serious that the newspapers announce the incorporation of the National Highway Protective Association to help the police bring lawbreaking automobilists to justice. Newspaper editors are giving up many columns to the subject. Even the chauffeurs themselves have been heard from, the Professional Chauffeurs' Club of America having gone so far as to engage counsel to help in the prosecution of reckless automobile operators and the deadly "taught by mail" chauffeurs.

A prominent judge, who has tried several automobile-accident cases, in an address to the jury said that in his opinion chauffeurs who recklessly do these acts, and without regard to the rights of others, and who either maim or kill, are guilty of either manslaughter or other grades of crime.

He went on to say that he believed this was about the time for the grand jury of this country to call a halt on such extreme selfishness as is evidenced by those possessed of the speed mania.

Touch-Buttons

What is your weakest point?

Accomplish something every hour and your achievements will make history.

If you were an employer, would you be glad to employ your present self?

Even punctuality may sometimes be purchased at the dear price of a flustered mentality.

A theme for a book: The ethical obligation and the commercial value of being well dressed.

Ask yourself: "What sort of business would it be if every man in it were just like yourself?"

Tact is a mixture of sympathy, common sense and forethought, with a little dash of make-believe.

Set a mark for yourself. It's an old story, but try it. It has been said over and over because men have found that it works.

Nothing dulls the keen edge of life quicker than the spirit of "What's the use?" To appreciate the use of little things sharpens every thought.—Collier's.

You bend every energy towards making your farm productive. What are you doing towards making it attractive?

Not attractive as a piece of improved real estate; not attractive as a money-making institution, but attractive as a home.

If there was a farm implement that would make your acres more productive, you would buy it without question.

Would you not, just as willingly, buy an instrument that would make your home brighter, more cheerful and more interesting?

Then buy an

Edison Phonograph

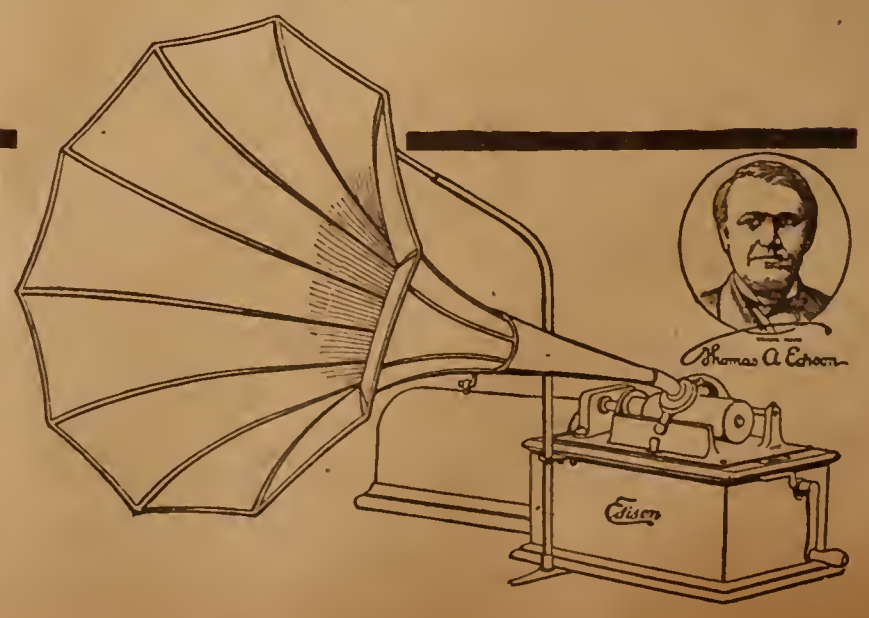
the wonderful invention of Thomas A. Edison, an instrument planned and perfected for the sole purpose of so multiplying the songs of great singers, the music of famous bands and the jokes and stories of great entertainers, that everybody may enjoy what otherwise would be the pleasure of the few.

Consider the attraction such an instrument would mean in your home, bringing it in touch with all that is popular and best in music and songs.

How could your hours of rest be better and more profitably spent than by listening to a song by a prima donna or a music comedy favorite, a rousing march by a band of distinction or a monologue by a man who has made the whole country laugh?

There is probably an Edison dealer in the town or city near you who has the new Edison Phonographs and all the latest Records. Ask to hear them. Learn about the Amberol Records—Mr. Edison's latest invention—Records that play twice as long as the standard Edison Records and longer than any other Record of any kind. If there is no Edison dealer near you, write us for a complete catalogue of Edison Phonographs and Records.

NATIONAL PHONOGRAPH CO.
151 Lakeside Avenue, Orange, N. J.



LIBRARY
RECEIVED
JUN 7 1909
U. S. Department of Agriculture.

WESTERN EDITION

ESTABLISHED 1877
The Illustrated Farm and Family Journal

24 NUMBERS
35 CENTS

Vol. XXXII. No. 17 | Springfield, Ohio, June 10, 1909 | Terms { 1 Year, 24 Numbers, 35 Cents / 4 Years, 96 Numbers, $1.00

Utilizing Farm Water-Power

The number of letters of inquiry received by the writer relating to the article on "Water-Power on the Farm," in Farm and Fireside of February 25th, shows a notable and even unexpected interest in the subject.

The information sought by the writers of these inquiries indicates that the farmer is seriously in earnest in his consideration of the subject, and that he is enthusiastically intent in his purpose to establish water-turbine plants to develop power for farm use wherever the opportunity offers.

One of the features of these inquiries is the fact that a goodly proportion of the writers contemplate coöperative equipment and operation. A number write that they are located near old abandoned mill-sites, where a water-turbine and electrical-power plant could be readily established without much expense, aside from some inconsiderable repairs to the dam and the building of a suitable flume, that would provide power for all the farms within a radius of several miles.

Several have in mind also the proposition of furnishing light to near-by small towns. The income for this lighting would soon cover the total original cost of the water-power plant in many instances, beside maintaining the cost of operating and the expense of repairs, replacing worn parts, etc.

Probably the majority of water-power plants that will be put in by farmers will be on farms having only enough water-flow to provide power for individual use. But the greatest amount of horse-power will be generated by turbine plants established on streams having sufficient flow and head to develop enough power for a community of farms, either under a coöperative plan or by individuals who will produce the power for sale to farms within reach of the plant.

Farmers in nearly every part of the country have for years been combining in the ownership and use of steam and gasoline engines, threshing-machines, manure-spreaders, grain drills and binders, corn planters, harvesters, huskers and shredders, ensilage-machinery, cider-making outfits, hay-presses, potato planters and diggers, dipping-plants and other agricultural implements and machinery, where varying amounts of investment are involved, and this combining of interests has proved economical as well as convenient.

Why Not Combine in Establishing a Water-Power Plant?

Then why not combine in the cost of constructing and equipping a water-power plant? The implements and machinery collectively owned can be used by only one at a time. The water-power plant, with electrical equipment and transmission, may be used by all the individuals interested at one and the same time, and if the power developed is great enough, the surplus energy can be sold to other near-by users not in the combine. When sold at a fair price this surplus power will bring in sufficient money to more than pay all operating expenses, repairs and interest on the investment, giving to the owners of the water-rights and the water-power plant the power they use practically free of cost.

A number of such plants are in operation in the South and in the East, and they are giving unqualified satisfaction. In some instances the combine of farmers having access and the rights to a waterway running through the farm or farms of one or more of those interested have put in a plant several times heavier than necessary to meet their power requirements. The surplusage of power is sold to other power-users along the lines of their feed-wires, which in most instances will run from the central plant in divergent directions. The charge is made at so much per horse-power year, estimated by the size of the motors employed by the consumer, and at so much per light or heater per year, or at so much per hundred or thousand kilowatts, measured over a meter placed at the junction of the supply connection to the individual consumer.

The increase in the price of turbines and generators does not advance in proportion to the increase in horse-power. For instance, a ten-horse-power turbine will cost about one hundred and twenty-five dollars, while the cost of a fifty-

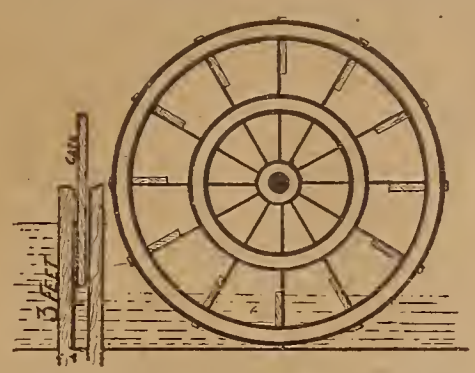


Fig. 1—The Under-Shot Type of Wheel

horse-power turbine will be about two hundred and fifty dollars; and the ratio of increase in cost decreases as the turbine and generator increase in horse-power.

It is readily understood, then, that the larger the turbine it is possible to employ to advantage, the lower will be the cost per horse-power for installing the plant.

It will be seen, therefore, that where the required flow or volume of water is available for a sizable plant, it will be the policy of economy and prudence to instal as large a plant as the power available will drive or that may be used or sold.

The transmission of the greater amount of power requires only a larger wire to carry the current, and as the cost of the poles and the setting, the cross-arms and insulators, will be about the same for either small or large wires, and as in most cases the lines to the various users in the combine will pass by or near other farms and residences of possible consumers, the cost of supplying current to the purchasing users will not be greatly above that necessary to reach the coöperative members of the power-plant system. The surplusage sold, therefore, is a matter of almost clear gain that will apply to cover the original cost of the plant.

Nearly all of the inquiries received bear a leading question as to how much power may be developed from streams, falls and abandoned mill-sites to which they have access. It is to be regretted that not one of all of these give enough data on which to base an intelligent answer.

A Kentucky correspondent writes that he has a stream of water passing through a ten-inch pipe with a ten-foot fall, and wants to know what kind of wheel would be best to use, and how many horse-power he could expect to obtain from that amount of water and fall. That depends, first, on the grade of the fall, and, second, on the volume of water, or pressure, that would fill the pipe. A fire-hose having just enough water to fill it from an elevation of ten feet would raise a stream only to the height of the inlet. With two hundred pounds pressure it would throw a stream into the upper floors of a sky-scraper. If this ten-inch pipe slopes away over a long grade, then much of the energy will be lost in friction. If it has a direct vertical drop of ten feet, the weight of the water falling on the turbine would be sufficient to increase the indicated power considerably. In the latter case he would have an indicated flow of nearly two horse-power, and by using a five-horse-power turbine it would develop something near three horse-power over the generator.

A correspondent in Washington says he has a stream of water running through his place, about four feet wide and six inches deep, running over a three-foot fall, and wants to know the power it will furnish. Much will depend on the incline over which the water reaches the falls; the rapidity with which the water passes over it. In short, how many cubic feet of water passes over the falls per minute. That can only be determined by measurement.

The Kind of Wheel Used Should Be One Adapted to the Conditions

An engineer to whom this inquiry was submitted suggested that in this particular instance a water-wheel of the over or under shot type would probably give the best satisfaction. The electrical generator could be driven by a chain or belt connection direct on the axle of the wheel. Such a wheel as indicated is illustrated in Fig. 1, a dam being constructed to hold up the flow and create a head of water to pass through an underflow gate and strike on the planking, or "paddles," of the wheel. An "off and on" clutch may be used on the driving-gear to throw the power either on or off the generator, and the gate may be closed if necessary to stop the wheel while making the change. The amount of power may be determined by a simple rule herewith given later.

An inquiry coming from Ohio tells of a creek "of good size" with a hair-pin bend four miles around that comes back to a point less than a quarter of a mile from the beginning of the curve, and on a level fifteen or twenty feet lower.

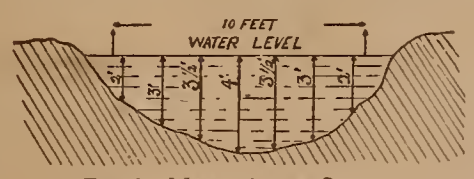


Fig. 2—Measuring a Stream

He wants to know "how much power would such a fall have." This query is just as impossible of answer as most of the others, because of a lack of detail in information. It will all depend on the meaning of "good size" in creeks. He may have ten horse-power, and he might have two or three hundred or even more horse-power. He says nothing of the width or depth of the creek or of the speed of flow at the point where the upper end of the canal or flume would connect at the highest point.

A Pennsylvania dairyman is close to falls dammed and once used for a saw-mill. The drop is twenty-five feet. He asks what size tile flume he will need to the turbine. The answer depends on the amount of horse-power to be developed and the amount of water available.

Upon What Does the Power Generated Depend?

These inquiries all lack one essential statement in the description of the streams or water available—that is, how much water passes a given point per minute? Upon that depends the quantity of power that may be generated. And even scientific formulas worked out in exact calculations will not always determine the question of power. When large power plants are installed, the builders generally send an expert engineer who has had years of experience in gaging waterfall by the eye to study the surroundings and conditions. The government surveys are generally made with delicate instruments, flow-gage meters and the like that are not available to the general farmer, and that would be useless to him even if he had them without the services of an engineer able to work out the intricate calculation.

A Method for Calculating the Flow of a Stream

There is one easily-constructed device that most any farmer can rig up that will give a reasonably accurate idea of the flow of a stream. It is merely a miniature water-wheel constructed in the lightest possible manner. The axle may be two by two or four by four inches, according to the length of the paddle arms. On this are nailed or bolted light pieces three fourths of an inch thick to form the "spokes" of a wheel, of which the axle is the hub. Three or four are used, making six or eight spokes, according to the size of the wheel, the aim being to have at least one paddle full in the water all the time. On the ends of the arms, or spokes, light pieces are nailed; shingles will do. They should be broad and the axle must play freely, so that the paddles will pass with the flow of the water without obstruction or allowing the current to swirl past them in the water. The axle may rest on posts driven in the bottom of the stream or rest on uprights having a plank base. The wheel is set so that the paddles are just covered with water when at the lowest point. The exact circumference of the wheel should be an even number of feet—ten, twelve, twenty, etc. Nail a lath or other strip on the axle as a check-arm by which to count the revolutions. After setting the wheel, allow it to run until it works freely without friction. Then count the number of revolutions per minute. Multiply the revolutions by the circumference of the wheel, and you will have the speed-flow of the stream per minute in lineal feet.

There are thirty-three thousand foot pounds per minute required to produce one horse-power. One cubic foot of water weighs approximately, sixty-two pounds. Therefore, if the wheel turns at the rate of five hundred and thirty-two feet (fractions omitted) in one minute, there will be approximately one indicated horse-power for every cubic foot of water in the stream at the given point. Any other speed-flow per minute

[CONCLUDED ON PAGE 5]

Around the Farm

Items of Interest and Value to the Progressive Farmer

For the Man Who is Land-Poor

A SUBSCRIBER in West Virginia has a farm of two hundred and sixty-four acres which he would like to shape up into a stock, grain and fruit farm, but he has been knocked out by severe illness, and now he cannot see his way clear as to what he had best do. Plainly he does not want to sell the farm, but just now it is like an elephant on his hands. He is unable to do anything with it.

If it were mine, and I thought I ever would again be able to tackle it, I would hold it. If I felt that my active days were over I would sell it at once. If I lived in town, and wanted to get out into the fresh air and sunshine, as he doubtless does, I would hold a part of it and make a home on it. I would hold enough to enable me to make a good home, to keep a cow, a horse and a few pigs and some poultry, to have plenty of fruit and vegetables to supply my table. I am well satisfied he will regain his health much sooner in the open air of the country than with the best medical care in the city. Any good physician will tell him that. With the money derived from the sale of the greater part of the farm he would be able to put forty acres into good paying and homelike shape, and have enough to keep him until he recovered sufficiently to make something.

This subscriber, like lots of others, is land-poor. That is, he has more land than he can profitably handle. If he were a strong, driving man he could, with good management, make that tract pay handsomely as a stock and grain farm, but under the circumstances he would be better off to follow the course I have outlined. The time comes in every man's life when he should take a reef in his sails for his own good. He should be willing to let go when holding on means trouble and worry for him and no good for the rest of humanity.

What sense is there in a man eighty years old buying every inch of land he can get and locking it up in such shape that it cannot be sold for years? He cannot take it with him when he passes away, so what good will it do him? I know at least a dozen old men who are doing this very thing. The fact is, they are land-crazy, and should be comfortably housed in an asylum, where they can do no further harm by preventing hard-working young men who want and need a home and a bit of land to make a living from for a growing family from ever getting it.

This is not socialism nor anarchy, but just plain sense. When a man has passed the days of his effective activity, and has accumulated sufficient possessions to carry him comfortably to the end of his days, he should quietly step aside and give some young man a chance. I know of whole townships of good land that have been gobbled up by a few old men who are rich, and are held at prices that none of the young men who are their tenants could pay. And they will not sell a foot of their holdings, anyway. They are simply dogs in the manger.

FRED GRUNDY.

A Farm Wood-Lot

FARM AND FIRESIDE:—I have a farm of seventy-eight acres that is somewhat run down. I am getting too old to attend to it myself. On the farm is eighteen acres of second-growth timber from three to ten inches through at the base. The rest of the farm is good clay loam, some of it quite stony. The buildings are poor. I would like to know what to do with the young timber. The timber is ash, oak, hard and soft maple, basswood, elm, hickory, butternut and beech. The ground is very thickly covered and the trees are all tall and straight. Please give me the address of the superintendent of forest preserves in the state of New York.

New York. A. K. W.

This wood-lot forms a valuable asset to the farm mentioned, but unfortunately has not yet reached a stage where it represents real tangible value. We have not yet reached the point in this country where we are ready to pay the accumulated value in a piece of woodland which is still too young to harvest and which must depend on the future for its return. This is not the right attitude to take toward forestry land, for the first year's growth is just as important as the fiftieth, and must precede all others. For every year that a piece of timber has been growing we ought to receive its proportionate share of the ultimate value if we sell, but we generally do not.

Fortunately for men situated as this man is, timber land requires little care. Just what treatment such a tract should have is hard to say. Unquestionably it would be benefited by thinning out surplus trees, but the return per acre from forest land is so small that no large expenditure is warranted. The trees need to stand thick in their young days, in order to induce the tall, straight growth which the letter mentions. Without this thick growth their value for forest purposes would be very small. But when this height-growth, free from limbs, has been attained, the growth will be more rapid if many of the trees can be removed, leaving only the better ones to mature. One can scarcely afford to do this until the trees are large enough to have some value, but when their size is sufficient to pay for the cost of removing them it is well worth doing. It is important in all such thinning to always leave the best trees. Other things being equal, these will be the ones which are in the lead, and overtop the others. This is Nature's way of thinning; the stronger trees get the lead, spread out and overtop the others, which gradually die for want of light. The sooner such trees are removed, the better for the growth of the remaining ones. Various systems of regeneration and renewal are discussed in the forestry books, but for the farm wood-lot of this size and age of trees such a simple plan of thinning out is about all that can be attempted or is necessary.

I think that information regarding the public forest policy of New York State can be obtained by addressing Prof. R. A. Pearson, Commissioner of Agriculture, Albany, New York.

FRED W. CARD.

Experience in Growing Cow-Peas at Hillside Farm

THE growing of leguminous crops is an absolute necessity on a well-regulated farm in this section (southern New Jersey). We find cow-peas of such inestimable value here that we would not know what to do without them. We grow them in either of two ways—drilled in rows three feet apart, or drilled with a grain-drill.

The former method is preferable on most of our soils, and particularly in orchards. The thorough cultivation during the summer makes the plants grow more vigorously. In one of my pear orchards cow-peas planted three feet apart grew so luxuriantly that the vines completely covered the ground, and it was impossible to tell that they were planted in rows. When planting cow-peas broadcast, we prefer to grow them together with millet or Kafir-corn, as they support the pea-vines, and the two crops make a good balanced soiling crop for cows.

The soil is prepared very carefully by thorough plowing and harrowing, and the seed drilled in with a corn-planter, at the rate of about one and one half bushels to the acre. When sown broadcast or with the grain-drill, about two to two and one half bushels to the acre are used, or when sown with Kafir-corn about one bushel of each is used.

At the time of drilling, we use three hundred pounds of the following fertilizing mixture: Three hundred pounds of muriate of potash and seven hundred pounds of acid phosphate. If planted early for early soiling crops, twenty-five pounds of nitrate of soda are added. We often used an additional top-dressing of about one hundred pounds of the mixture when the cow-peas are up. As a general rule the fertilizer placed at the time of planting is sufficient to grow a good crop, even on our poorest soils, the Jersey marl sand.

The time of planting varies. We have planted as early as the first of May and as late as July 4th. The early planting at times does poorly, and it is safest to plant the latter part of May.

Cow-peas are ready to feed as soiling crops to cattle in ten weeks after planting. Last season we commenced to feed August 5th, and continued daily until the latter part of October. We cut the vines for soiling when the blossoms appear, and continue to feed until many pods are ripe. By planting successively, a fresh supply of green cow-peas can be had for soiling. If the pods get too ripe for soiling, we cut the plants for seed, or have them for green manure. Some seasons we make hay, which is relished by cattle if proper precaution is taken in curing it, so that the leaves are not lost.

In growing cow-peas for silage, we have tried to grow them together with corn, but as the planter does not drop cow-peas near each hill of corn, not all the cow-peas had a chance to climb up the corn-stalks. Besides, we experienced considerable difficulty in using the corn-binder on them. So we prefer to grow the cow-peas separately. There are a number of different varieties of cow-peas; some are better adapted for soiling, some better for seed. Last season we planted six varieties—namely, Early Black Eye, Whippoorwill, New Era, Red Ripper, Clay and Wonderful. They were all planted between May 15th and June 1st, but some were full of ripe pods and with most of the leaves off the first week in September, while others were green and practically without pods until the first week in October. Early Black Eye, Whippoorwill and New Era are all three early-maturing varieties. They are, therefore, good for early soiling or for seed. Clay, Red Ripper and Wonderful are heavier yielders and better adapted for soiling, silage or hay.

If cow-peas are cut early, they produce quite an abundant second growth. We usually have this for green manuring.

C. A. UMOSELLE.

Treatment for an Impoverished Farm

A MISSOURI farmer has twelve acres of land that has been cropped and badly managed until about half of it is overrun with brush and the other half yields very poor crops. Originally this land yielded fifty bushels of corn to the acre. He wants to know how to get it into good crop-yielding condition in the shortest time.

During the past ten years I have received hundreds of queries similar to this. Farmers have a tract of land that has been cropped to death by several years of hard and rough farming, and they want to bring it up to its original fertility in a year or two by some process similar to alchemy or the waving of a magician's wand. If such a process were in existence, farmers would surely have a cinch. The soil has great recuperative power when it is given a fair show and protected from the elements that destroy, but if it has been robbed of its available fertility by many years of hard cropping, several years of careful nursing is required to restore its strength.

The first thing this farmer should do is to clear out that brush, root and branch, and then proceed to fill the soil with humus and restore the nitrogen, which plainly has been almost entirely taken out by the crops grown in it the many years it has been abused. Probably the best way to do this is to seed it to cow-peas this year. If he uses cow-peas, they should not be planted until the soil has become well warmed. The cow-pea is a sun plant that makes its best growth in sunny, sultry weather, so nothing is gained by planting or sowing it early. Plow and pulverize the soil as soon as it is in condition to work up well, then disk once or twice before sowing the peas. They may be sown broadcast, or drilled in with a corn-planter, straddling the rows so as to have the drills about twenty-one inches apart. One cannot broadcast them so evenly as they can be drilled, and probably he will find the latter method the best. If the land is in good shape, they require no cultivation. They will soon be up and smother out most weeds that may appear. If possible, he should turn a bunch of pigs into the field as soon as the first pods ripen. They will live and grow fat on the peas, and will not injure their fertilizing qualities in the least.

The first touch of frost settles the cow-peas. Then the question arises as to whether they should be turned under at once or allowed to lie there and rot. Some good farmers follow one plan, and some the other. If the vines are left on the surface all winter, they protect the soil from washing and leaching. If they are turned under, it is advisable to seed to rye to protect the soil, the rye to be turned down in the spring when six or eight inches high.

It would be a good idea for this farmer to plant half of this tract to corn next spring and the other half to cow-peas again. The following year seed the corn-field to cow-peas and plant the pea-field to corn. He could follow this plan if he must have a crop from the land. If he is not obliged to crop it he should seed it to clover, allow it to stand two years and then plant corn. Of course he should not fail to apply all the manure he can obtain. It helps to make humus.

F. G.

Growing Sorghum for a Forage Crop

FOR a number of years we have grown this crop on our farm as a supplementary feed to tide over the usual gap between the withering up of our native pastures and the season of winter feeding upon dry feeds.

The farmer who has a blue-grass pasture of sufficient size to accommodate his herds need not give much concern in regard to these supplementary crops, but all over this northwestern country, and especially in the corn belts, where all lands are broken and varied crop rotations are resorted to, we find that the growing of a few acres of forage crops for early fall feeding is very useful, and some seasons almost a necessity.

We have grown various crops for this purpose, and while we find Stowell's Evergreen sweet corn among the very best of forage-producing crops, we cannot compare it in value to sorghum for this purpose.

This crop is not depleting upon the soil, as one might think, for we have succeeded in growing it for several seasons upon the same plot of ground, the last crop seemingly as good as the first; however, as soon as the crop is harvested in the fall, we always sow the field to rye, which grows rank and is turned under in late May or early June for the planting of the sorghum crop.

Sorghum does not germinate as readily as corn, and the soil needs to be well warmed before the seed is planted; for if it be planted early, it lies in the soil for some time before germinating, and coming up spindling, will become weed and grass bound unless close attention is given to cultivation of the surface.

Hence we never plant this crop until the earth is sufficiently warm to germinate the seed in short order.

We have tried the crop in various manners, and find that for our purpose of feeding out in the autumn as cut from the field we can get best results from planting in hills two feet apart, in rows three and one half feet apart, and cultivating with ordinary corn-cultivators.

With about four stalks to the hill this gives us an enormous yield of succulent feed, and the animals—cows, horses, hogs and all—consume the entire growth with relish.

We have tried both the orange and red seeded varieties of sorghum, and think that the former makes much the best feed, while the latter is the most productive in saccharine quality when grown for molasses.

GEO. W. BROWN.

Ohio.

Using the Cultivator

AMONG the many implements invented and improved for the use of the farmer, I think none can be adapted to as many purposes as the cultivator.

Most farmers pretty well understand plowing corn, but I find by experience that it is very important to use the narrow plows for the first and perhaps the second cultivations if the corn is small or if the ground is packed by much rain.

For the last working, or after the corn is large and the root system developed, I remove the regular shovels and attach a set of short shovels, so as to thoroughly pulverize the surface crust without interfering with the root growth.

I can adapt my cultivator to the cultivation of many other crops. In plowing small vegetables where weeds have gotten a good start, I attach a specially constructed set, which scrapes and cuts all weed growths just under the surface, which saves a lot of hand labor with the hoe; these shovels can be adjusted to scrape sweet potatoes or any crop grown on a ridge.

I use a pair of shares attached to turn the soil together to make up my potato ridges, and do all the work through the crop with the cultivator. In this way one hand can cultivate twice as much as he can with a one-horse plow and a hoe.

R. B. RUSHING.

With the Hay Crop

A Practical Discussion of the Best Methods for Curing and Storing

Handling the Hay Crop

HAY-MAKING is strenuous business, and so important is its bearing on the live-stock industry that every progressive farmer is on the alert to compare notes with his neighbors, and thereby gather in all the new ideas that promise to work to his advantage. Different conditions, of course, mean different systems, hence there naturally exists a wide divergence of opinion regarding the best method to employ.

Just at what stage of maturity the hay crop should be cut in order to obtain the greatest amount of digestible matter has been the subject of considerable debate. With a view to arriving at some definite conclusion on this point some valuable experiments have been made at the Ontario Agricultural College. Alfalfa was cut at three different stages—namely, when the buds were just formed, when one third of the blossoms were out, and when a little past full bloom. So far as composition was concerned, the first cutting made rather the best showing, yet the plants not having obtained their full growth, the yield was smaller than that obtained in the second cutting. With the advance of maturity there was a marked decrease in the amount of protein and a corresponding increase in crude fiber. By delaying the cutting only until the crop was about one third in blossom, the largest amount of digestible matter was procured.

On red clover the effect of early maturity proved to be very similar. Deterioration in this case, however, does not appear to occur quite so early, therefore cutting may safely be delayed a little longer, the largest amount of digestible nutrients being obtained when the clover is in full bloom. Unlike the alfalfa and red clover, timothy appears to increase in nutrients up to the time that it is nearly ripe, the smallest increase being in the case of protein. Yet as ripening proceeds it becomes more woody and less palatable, the best quality probably being obtained just after full bloom.

Making due allowance for minor variations, practically three methods obtain in handling these hay crops—slow-curing, quick-curing and labor-saving.

The one most largely practised is what is here termed the slow-curing method. The clover is cut in the forenoon, shaken up with a tedder or fork during the day, raked into light windrows, and put in cock in the late afternoon of the same day. This course is frequently modified by cutting in the afternoon and deferring the tedding and cocking until the next day. The clover is then allowed to stand in the cocks until it gets rid of its excessive moisture, which is usually several days, when it is drawn to the mow. While by this method much excellent hay is made, considerable risk is incurred from damage by rain, owing to the length of time it has to stay outside; besides, there is much labor involved in cocking and pitching by hand.

The quick-curing method, or, in other words, the curing of clover in a semi-green condition, has been practised more or less for several years, and has invariably been popular wherever it has been tried with success. As a matter of fact, the hay is really cured in the mow, the term "quick-curing" referring to the length of time it is left in the field after cutting. My own experience along this line has been so satisfactory that I very much prefer to handle the clover crop in this way, and always aim to do so, provided, of course, the conditions are right. There are, however, a few principles underlying the practice that must be thoroughly understood and observed. The cardinal feature is to have the hay absolutely free from foreign moisture. On many soils it is very difficult to secure these conditions. Undrained land which holds an excess of moisture is likely to cause mildew, and if this goes into the barn on green hay, the results are about equal to putting yeast into moist flour. The whole lot is leavened in the case of the flour, and the whole of the moist hay will be permeated with the germ that produces heat and mold. If the weather is favorable, we cut in the morning after the dew is off, ted all before noon, ted again after dinner, rake up and haul to the barn, and store in large mows. These mows are twenty by thirty feet, with an average depth of twenty-five feet, tight floored with double inch boards over basement stables. The outsides are inch boards, between which are cracks that will average about three eighths of an inch, just such as are found in the average barn. The sides of the mow next to the drive-floor are also open, yet the hay keeps equally as well there as in the more central portions of the mow. It all came out last winter a good green color without any signs of heating or of mold, with the fine fragrance of new-mown hay. This plan of curing hay, it will be seen, has several advantages over that commonly practised. The time between cutting and storing in the barn is considerably shortened. All the leaves and blossoms, which are the most valuable portion of the plant, are left on the hay; by the old process many of these are left in the field.

The labor-saving method of making hay is the one most commonly followed on large farms where all the modern appliances in hay-making machinery are at hand. The mowing-machine is started at almost any time during the day, although, as in the case with the other systems, it is preferable to wait until after the dew is off. Ordinarily the tedder is dispensed with, but if the clover is very rank and sappy it may be necessary; otherwise the side-delivery rake makes a very good substitute and saves time. Toward evening of the day the hay is cut, that which is driest should be raked up with the side-delivery rake, which turns the swaths upside down in a light, continuous windrow, where it is left until the following day. As the greenest clover is on the surface, there is but little danger of injury from a heavy dew. When thoroughly dried off, the loader is started and the hay hauled to the barn. Modifications of this method may, of course, be necessary at times, depending on the weather conditions and the character of the crop. It is not claimed that this plan will equal the other methods in the quality of the hay made, still good hay is made in this way, and the saving of labor is enormous—an important consideration in these days.

J. HUGH MCKENNEY.

Hay-Caps Are an Important Part of the Equipment in Producing Alfalfa Hay

For Stacking Hay

LAST year a short time before the haying season a neighbor came to us and stated that he would like to purchase of us a certain tree he had noticed in our woods. The tree was a tall, straight poplar about fifteen inches in diameter at the base. Upon inquiring as to what use he would put such a stick, he stated that he intended to use it in making a contrivance for stacking hay, having some forty acres that he was compelled to stack. He did not give us the details of his plan, so when haying-time came we seized the first opportunity to go and examine his device and see it in operation.

We found the pole standing in an upright position at the side of the stack they were then building. The base of the pole rested in a socket formed by burying a small square box in the ground. This held the base of the pole in place, but did not interfere with its being turned. The top of the pole had been cut down slightly, so as to make place for an iron collar, to which the guy wires were attached. The guy wires, three in number, extended from the pole to stakes driven in the ground at sufficient distance from the pole to hold it firmly in position. At a place about three fourths of the distance up the pole an arm extended out. This arm was from eight to ten feet in length and was formed by two strong planks. One end of each plank was attached to the pole, one on each side, by means of bolts extending entirely through the pole. At the other end the planks were also fastened together. The outer end of this arm was supported by wire extending from the end of the arm to the top part of the pole.

Within a short distance of the ground, for the space of a couple of feet, the size of the pole was greatly increased by nailing several layers of narrow boards to it. This was to give greater leverage in turning, which was to be done by means of a rope coiled about the pole. A pulley was fastened to the outer end of the arm; another to the arm nearer the pole, and another to the lower part of the pole just above the enlarged portion. This latter pulley was fastened with a rope of sufficient length to give it considerable play to swing either way around the pole.

The loads were driven up beside the pole, so that it was directly between the load and the stack. A hay-rope was fastened to the arm near its outer end, and descending passed through a pulley on the hay-fork, then upward and through the pulley at the end of the arm, then over through the pulley next to the pole, and from there down through the pulley at the lower part of the pole, and out along the side of the stack to where the horses were hitched to it. A shorter rope was coiled around the enlarged portion of the pole, one end being fastened to the pole, while to the other a pulley was attached. A stake was driven in the ground a short distance from the pole on the side next to the horses. From this stake a rope extended through the pulley on the end of the coiled rope, back to the coupling to which the horses were hitched.

The unloading was done in the following manner: The pole was turned with the arm extending out over the load. The fork was drawn down and set, and the team at the end of the rope started, pulling in a line parallel to the side of the stack. When the forkful of hay was raised to a sufficient height, the rope for turning the pole (this rope had been set to the required length) drew taut, and as the team moved the next few feet the forkful of hay swung gently around until over the stack, when it was dropped. While the team was returning, the arm was drawn back over the load again ready for another trip.

P. C. GROSE.

Curing Hay With Canvas Covers

I HEAR a great deal of complaint during the feeding season about hay that was not properly cured. Clover hay is especially hard to cure unless the weather is ideal, for I like to cut my hay with color to it. Even timothy I find is superior when cut green, or rather just past the bloom.

I cure all of my hay in cocks, and not in the swath. I want my hay air-cured and not sun-cured. However, it takes longer to cure hay in the piles than when it is spread thinly on the ground. Right here is where my canvas covers come in to pay their way. Many farmers may object to investing good money in hay-caps, especially if they have a large acreage in meadow, but I have learned from experience that it surely pays, and pays well.

I use caps just one yard square, made of eight-ounce duck, which I buy by the bolt at fourteen to twenty cents a yard. In this way each cap costs me from fourteen to twenty cents, besides the labor of hemming and weighting the corners.

I just tie an old horseshoe in each corner with a piece of heavy twine, allowing it to hang about six inches from the corner. This covers quite a large haycock, as only the top need to be protected. The corners, however, may be weighted with anything that is available with equal success.

When the weather is bad, the hay can be left under these covers for a week or more without the least injury. I find that by having these covers on the cocks, no hay gets spoiled by the heaviest rains and very little is sun-bleached. For the curing of cow-pea hay it is the only way of knowing that it will be cured successfully. I have put cow-pea hay in the barn, apparently in good condition, and in a short time I would find that it was not keeping, but since I began the use of the canvas caps I have never been troubled with this.

I have made these hay-caps pay for themselves many times both in quality of hay and in convenience in handling. I used to lose a large amount of hay at times when there would be sudden showers, often damaging the entire crop. I now get my hay in when it suits me best, and don't have to call all hands to work so hard when there is threatening weather.

I well remember several years ago I had ten acres of fine clover, and as I like clover cut while yet green, I cut it before it was too ripe, and it would have made nearly two tons to the acre. The day after I got it nicely cocked up it began to rain, and rained constantly for about ten days; of course it did not rain hard all this time, but it never stopped long at a time. At the end of this period my hay wasn't worth hauling for bedding, so I let it lay, and scattered it out and plowed it under.

It was worth as feed to me at least ten dollars a ton, therefore I consider that it was a loss of two hundred dollars less the cost of hauling and feeding. Two hundred caps would have saved it, and they would have cost me, including labor of making, not over fifty dollars. That would have been a net profit on that one deal of one hundred and fifty dollars, and I would have had my hay-caps left for future crops. Of course I did not entirely lose the crop, as it made good fertilizer for the soil, but I was forced to purchase feed for my stock, which would not have been the case had I saved the hay, so I consider it a great loss.

These caps will last for years when properly cared for. After the haying season is over, my caps are carefully dried out, oiled with linseed-oil, and stored in a dry place for the next year.

If you have never tried the above method, just try it this year for experience sake, if for nothing else, and you will always follow the method.

R. B. RUSHING.

What's the Matter With the Farmer?

Another View of the Country Life Commission's Report—By Arthur J. Bill

The drift of Mr. G. C. Streeter's article in the Farm and Fireside of March 25th seems to be that President Roosevelt's Commission on Country Life has simply told us a lot of things that we knew before; that poverty is the fundamental cause of the farmer's troubles, and that if the farmer could get the proper pay for his products, instead of giving so large a share to the middleman, this would lead to a correction of practically all the bad conditions on the farm.

Mr. Streeter says: "In many sections where farmers are prosperous you will find them doing all they can to maintain—yes, to increase—soil fertility. . . . Poor roads are always found among poor farmers. . . . If in any section you will increase the net earnings of the farmers, they will improve the roads. . . . The most intelligent critics of the country schools are the farmers themselves. The farmer has the best schools he can afford. . . . Every farmer wants a comfortable, convenient home. There is only one good reason why all farmers do not have these necessary conveniences and comforts. They cannot afford them. . . . The reason why a woman's work on the farm is hard and dreary is because you can't afford to make it otherwise. . . . I might take up every one of the commission's list of disadvantages and conclusively prove that all spring from a common source—the poverty of the farmer."

Important Distinctions

In a certain sense or to a certain degree these statements are true, as plainly shown by the commission's report, but they do not correctly represent the case, especially the last sweeping statement. Mr. Streeter ignores the fundamental forces of knowledge and education so strongly set forth by the commission, and falls short of its recommendation of organization, or of any other practical means of securing the farmers' financial rights. He assumes that farmers know just what to do, if only they had the means, the money, to do it with. He makes out that one great feature of the report is the only feature of importance; puts poverty as the cause, when often it is the result; lays the farmer's poverty to those who have robbed him, when it is often also due to his own robbing of the soil, and other wasteful, thoughtless practices; and he offers no suggestion of how we are to get his cure-all in operation. It seems to me that the financial relief of trade and transportation rights alone would not remedy all the farmer's disadvantages, and that if they would, they could never be secured and maintained without the knowledge, education, organization and leadership urged by the commission. The commission's report is far wider, deeper, more logical and more practical than that, and, moreover, it rests on the greatest body of evidence ever secured on this subject.

Poverty the Result, Not the Cause

Many farms, wide areas, are so poor in plant-food that only a bare living can be wrested from them. Not a dollar an acre can be spared for building up the soil. Such poverty is pitiful and helpless, but certainly it is not typical of the Middle West and many other sections where farmers are prosperous. But much of this land was once fertile and its owners well-to-do; their heedless and unknowing methods hurt the land. Thousands of prosperous farmers are to-day wasting the fertility in their soil and inviting poverty for their children because they don't know, don't believe or don't care. In both cases poverty is the result, not the cause. The fundamental cause is the lack of knowledge and the right attitude toward the truth. After carefully studying and reporting soil conditions for ten years, I cannot believe that prosperous farmers are doing all they can to maintain and increase the fertility of the soil—only a few of them.

Only recently have we begun to know the truth about the soil as we know it about a bank-account. The idea of a permanent agriculture seems very new to our foremost scientists, and investigations into its exact requirements have been undertaken only in a few spots. The greatest and sanest cry of warning in the Middle West to-day is to start systems of farming that will fully maintain our soils before we or our children become too poor to do it. It is yet a very grave question whether we will see the soil truth and heed the warning in time. Plainly here the fundamental need is for that education and united leadership which will bring the facts to the realization of all.

Where Wealth Alone Falls Short

Something besides "increase of net earnings" is needed to secure improvement of the roads, as witnesseth the poorest roads on the richest land, as in Central Illinois. Many poorer sections have better roads, partly because of natural advantages and partly because of education, demonstration and viewpoint.

It is only partly true that the farmer has the best schools he can afford. Our leading educators and teachers in city or country, and our most thoughtful, progressive farmers everywhere, are practically a unit in seeing that we must now make the rural school teach useful matters and inspire respect for country life, and yet the mass of farmers themselves are largely indifferent to any such innovation in their schools even where the work involves little or no increase of cost. Again, a statement of school-tax rates will show that in many a prosperous county the farmers are spending but little more than half as much on their schools, in proportion to their assessed property, as are the city people.

"As He Thinketh . . . So is He"

The farmer is more willing to invest his wealth in a modern, convenient home than in his school, and yet even here his money may get only the foundation, the shell, of the best conveniences, labor-saving equipment, sanitation and satisfaction, unless there is much definite knowledge and a carefully-constructed ideal to guide the expenditure. Money will secure much for the housewife, but it will never, either directly or indirectly, bring her the rest and mastery of her work that science and the recorded experience of other women offer. She may not respect such teaching unless the truth about it is impressed on her by some associates, organization or education with an attractive personality in it.

Do farm people in general know that water-pressure, bath and toilet room with completely satisfactory soil-absorption system, a lighting-plant, power laundry-machinery, vacuum cleaner, power for churn and all small machinery, all any city home can secure in modern conveniences, can be had on the farm for one thousand to fifteen hundred dollars, just about the price of a modest city building-lot? You will find plenty of good dairy-barns with the ventilators or windows closed up, and other as plain evidence of property without knowledge. And on the other hand, it needs but a moment's reflection to recall that many important and valuable improvements in the home and on the farm cost little or no money, but simply careful thought and definite instruction, coupled with an eager, settled purpose to get the best things attainable.

A Broader, More Definite Idea

See how much farther than the poverty-and-profit idea the commission itself goes: "Agriculture is not as commercially profitable as it is entitled to be, . . . and the social conditions in the open country are far short of their possibilities. . . . The farmer usually stands practically alone against organized interests, . . . and naturally the separate man suffers most."

The commission says the reasons for the lack of a highly-organized rural society are very many; Mr. Streeter says they all center in one, poverty. The commission says one of the leading causes is "a lack of knowledge on the part of farmers of the exact agricultural conditions and possibilities of their regions," and favors a system of thoroughgoing surveys to provide a basis on which to develop a scientific and economically sound country life. We are just in the beginning of such application of science; we have suffered tremendously for lack of it; and yet Mr. Streeter attaches no special importance to this part of the report, assuming that the farmer knows what to do and will do it if we simply put the money into his hands.

The commission emphasizes the lack of good school training for country life, a misapprehension of the very purpose of the country school, its failure in making the pupils respect farm life or fitting them for its work, and it needs much more than money to make these schools face about to their proper mission.

The commission wants "a thoroughgoing investigation by experts of the middleman system of handling farm products, coupled with a general inquiry into the farmer's disadvantages in respect to taxation, transportation rates, coöperative organizations and credit, and the general business system." Such investigations would give the exact evidence necessary for correcting the abuses upon which Mr. Streeter dwells, and its recommendation by such a commission seems to me the greatest practical move ever made, preliminary to securing what Mr. Streeter wants and what we all want.

Guidance of Public Opinion

The commission wants some agency to be provided "for the guidance of public opinion toward the development of a real rural system that shall rest directly on the land." This is something very different from making and spending money on the farm, and yet it is quite as essential to the permanent prosperity of our agriculture. The commission wants "careful attention to the farmer's interests in legislation on the tariff, on regulation of railroads, control or regulation of corporations and of speculation," etc. This highest authority would go right after the practical remedy for these causes of the farmer's poverty. Let the farmers make the most of this backing of their cause.

Among other things, the commission recommends "a broad campaign of publicity, that must be undertaken until all the people are informed on the whole subject of rural life, and until there is an awakened appreciation of the necessity of giving this phase of our national development as much attention as has been given to other phases or interests." We have a long ways to go before that is accomplished, and the agricultural press, the daily press, the magazines, the schools and educational press, the pulpit and the religious press, the farmers' institutes, granges and clubs can and should do a great deal in carrying out this recommendation. The commission has furnished some of the best material and sources of material for such a campaign, and indicated the direction in which it may best be used—not in emphasizing a single point to the exclusion of the rest, but in trying to develop the whole broad, symmetrical structure of a prosperous, permanent and happy rural life.

Must Be Permanently Satisfied

Listen further to the commission: "The problem of country life is one of reconstruction, and temporary measures and defense work alone will not solve it. . . . First of all, the business of agriculture must be made to yield a reasonable return to those who follow it intelligently; and life on the farm must be made permanently satisfying to intelligent, progressive people. . . .

"We regard it as absolutely essential that this great general work should be understood by all the people. Separate difficulties, important as they are, must be studied and worked out in the light of the greater fundamental problem." This sounds good to me, and its development will give food for many a day's thought.

"The country schools are to be so redirected that they shall educate their pupils in terms of the daily life. Opportunities for training toward the agricultural callings are to be multiplied and made broadly effective. Every person on the land, old or young, in school or out of school, educated or illiterate, must have a chance to receive the information necessary for a successful business, and for a healthful, comfortable, resourceful life, both in home and neighborhood." This means redoubled efforts for better country schools, special agricultural schools, and "a well-developed plan of extension teaching conducted by the agricultural colleges, by means of the printed page, face-to-face talks and demonstration or object lesson, designed to reach every farmer and his family, at or near their homes, with knowledge and stimulus in every department of country life." Is it not time we recognize the vital truth of this and lend our most earnest and practical support to the movement? It is only education now, but it will be both money and happiness tomorrow.

The New Leadership

"Rural teachers, librarians, clergymen, editors, physicians and others may well unite with farmers in studying and discussing the rural question in all its aspects. . . . Most of the new leaders must be farmers who can find not only a satisfying business career on the farm, but who will throw themselves into the service of upbuilding the community. A new race of teachers is to appear in the country, a new rural clergy is to be trained. These leaders will see the great underlying problem of country life, and together they will work, each in his own field for the one goal of a new and permanent rural civilization."

Highest Authority, Most Evidence

Nothing ever attempted before has made such a basis for everybody to know rural conditions and needs as the work of this commission. Many limited and private investigations have been made. A few people have had some idea of the disadvantages and necessary remedies in the report. But for one reason and another thousands of us have been able to say or to think in our hearts that the narrator of these things was too small, too enthusiastic or too one-sided to give us a true picture of the facts, or that it was of no use to attempt a remedy.

But now comes a commission chosen by a President known as the most sincere and aggressive searcher for truth and practical applier of the truth, known to the world of affairs to-day, a commission of prominent, successful men of keen intellect, broad experience and special training for such investigation, and unbiased by private interest. They go from one end of this land to the other and publicly interview and cross-question thousands of men from all walks of life that touch the farm or the home in any of its interests, get one hundred and twenty thousand letters in answer to their questions, and simmer down the meaning of it all into a report upon which they agree. The attention of the whole country is attracted to this investigation. The questions asked and the answers given are public property. Other information or opinion was welcome, whether to corroborate or to refute. The only thing sought was the truth. The writer cannot think that any man living ever before had the opportunity to know so well the true conditions of country life in America. The character of this commission and the publicity given its findings is going to make the truth about these matters known and believed by a vastly larger audience than has ever known or believed it before.

When a farmers' institute speaker, college professor or agricultural editor has mentioned these very things before, we have said that he didn't know, that he was theoretical, that his business required him to talk that way, that it was a fad of education, and many other foolish things to bolster up our unbelief, but when a commission of this prominence and integrity makes an investigation of such breadth and depth it begins to impress us. It is now authority and of record in a way never dreamed of before. Congress and state legislatures will know it and respect it. It will guide the thought of many a teacher, speaker and writer—guide him to a sane, balanced and highly useful position from which he will never have to recede.

It is the Result That Counts

I read with interest the article by Professor Vivian on page 17 of the April 10th issue of Farm and Fireside, "Lime Not a Food." I agree with the writer that not all soils need lime, and when clover fails to make a satisfactory growth one may safely apply lime without requiring other evidence.

I have for years noted the effects of lime on our soils of eastern Tennessee, and have made systematic tests, with results that are gratifying indeed. The soil of my farm is "Knoxville dolomite limestone"—soil formerly very fertile dark brown loam with a red clay subsoil. Poor farming and soil erosion have left their mark.

The effect of lime carbonate or quicklime on this soil is marvelous. When one stands beside my alfalfa, now ten to twelve inches high, with a lovely thick sward completely covering the ground, and looking beyond on all sides sees eroded red clay banks, poor growths of grass and wheat, there comes to him a feeling of respect for whatever the agency may have been that promoted this growth. And when I apply lime on an annual legume (stock-peas or soy-beans), and leave off lime on a side-by-side test, and note the growth to maturity, then carefully take up the limed and unlimed plants, and note the nodule formation on the one and the lack of it on the other, and find in some cases seventy-five per cent in favor of the limed plants, then it is I take off my hat and say, "But little difference to me does it make whether lime be a 'manure' or a 'medicine.' The results are what count."

O. P. R. Fox.

Asked and Answered

Questions of Interest to the Practical Farmer

The Value of Chicken-Manure

FARM AND FIRESIDE:—I would like to ask if "hen-droppings" could be used to good advantage in a garden where potatoes, beans, corn, tomatoes, melons, etc., are raised, and how it should be used. We have five or six barrels, some of it two years old. I know it is a strong fertilizer, but never have used any. Should it be mixed with sand or loam before using, or can it be scattered on the ground as barn-yard manure is used? How much should be used to half an acre?

I would also like to ask if there is a market for it, and about what price could we get, in case we do not use it?

Massachusetts. W. C. W.

Hen-manure is an excellent fertilizer to use in the garden and may be used on any of the crops ordinarily grown. While chicken-manure is generally considered a "strong fertilizer," it can safely be used in much larger quantities than are usually available. W. C. W. need not be afraid to use the entire five or six barrels on a garden with an area of half an acre.

There is nothing to be gained by mixing the manure with sand or loam before scattering. The best way to use the hen-droppings would be to apply it after the garden is spaded or plowed, and rake or harrow it into the surface-soil. The ideal way to use this fertilizer is as a top-dressing, and it would be a mistake, in my mind, to plow it under. The plant-food in it is more readily available than that contained in barn-yard manures, and as it will be readily carried down into the soil, it should be applied to the surface. The roses and other flowers as well as the vegetables will be benefited by a light dressing of this manure.

Chicken-manure when fresh contains about 1.5 per cent each of nitrogen and phosphoric acid and .8 per cent of potash. At the prices which prevail for fertilizing materials it would be worth from six to seven dollars a ton. There certainly ought to be a sale for it any place where gardeners are found, but W. C. W. can hardly afford to sell it as long as she has a half-acre garden on which to use it.

The droppings should always be kept under cover, as a large part of their value may be washed away if exposed to the rains. Their value for the garden would be considerably increased by the addition of a little acid phosphate, say one half the weight of the droppings. Never mix lime with hen-manure, as that will result in loss of ammonia.

ALFRED VIVIAN.
Ohio State University.

Utilizing Farm Water-Power

[CONTINUED FROM PAGE 1]

may be multiplied by sixty-two, which will give the foot pounds per minute that pass a given point in a stream one foot wide and one foot deep. If the stream is ten feet wide and two feet deep, and you have the speed-flow of say three hundred feet per minute, that multiplied by sixty-two, multiplied by ten and again by two would give an indicated horse-power of eleven and a fraction.

The depth of the water in a stream is seldom uniform, so that measurements must be made at different points, as shown in Fig. 2, to determine the average depth. The bed of the stream represented in the drawing is, say, ten feet wide. Taking seven measurements, we find the

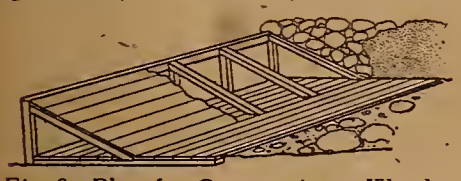


Fig. 3—Plan for Constructing a Wooden Dam

total twenty-one feet, or an average depth of three feet, so that a cubic foot of water across the stream would weigh eighteen hundred and sixty pounds, and if the stream flowed at the rate of five hundred feet per minute, there would be nine hundred and thirty thousand pounds of water pass a given point each minute. Dividing this by the thirty-three thousand foot pounds required to produce one horse-power, the indicated horse-power would be a fraction over twenty-eight. This amount of water tumbling down a rapids or falls at the rate of one thousand feet per minute when run through a turbine of larger horse-power than indicated by the flow will produce something like sixty to seventy-five horse-power.

The simple means above described for computing the indicated power of a stream is frequently employed by practical engineers to make rough estimates, and it is so simple that any man may apply it.

Several correspondents have asked for a plan of the timber dam referred to in the article of February 25th. Fig. 3 shows the construction of a practical wooden dam with plank facing. Small saplings halved or stout poles laid in place of the plank and covered with enough sand and cement to make it water-tight will serve as well. All of the timber used should be treated to some good wood preservative, to prevent decay. An apron of plank, rock or logs should be placed in front of the dam, to guard against washing out by the fall of water that would eventually undermine the foundations. R. M. WINANS.

When you Build or Repair remember that the most durable and economical material is concrete, also that

ATLAS PORTLAND CEMENT

Makes The Best Concrete

OUR FREE BOOK "Concrete Construction about the Home and on the Farm." Contains over 100 drawings and illustrations of concrete houses and suggestions to the prospective builder.

The ATLAS Portland CEMENT Co., Dept. 122, 30 Broad St., N.Y.

ATLAS, the cement bought by the U.S. Government for the Panama Canal.

Freight Prepaid On Breese Bros. Rubber Roofing

DON'T spend a dollar for roofing until you have seen and tested the old, reliable **Breese Bros.** guaranteed waterproof, fire-resisting, durable **Rubber Roofing.** Made by our own special process, of long-fibre wool felt, saturated in asphalt. Heavily coated on **both sides.**

Free Cement and Special Roofing Nails inclosed in each roll. Hammer lays it. Use on ALL Buildings

Send for Free Samples and Booklet

Get these samples of 1-ply, 2-ply and 3-ply roofing: Put them to every test you can think of and prove to your own satisfaction that **Breese Bros. Rubber Roofing** is the highest quality roofing on the market. We give the

Longest Guarantee

Send for samples or order now on our strong guarantee of satisfaction or money back. We pay freight to all points east of the western boundary line of Minnesota, Iowa, Missouri, and north of south line of Tennessee. Don't delay ordering; these special prices may not be offered to you again. Take advantage of them and write now, today.

Lowest Factory Prices
Freight Prepaid on 100 lbs. or more

35-lb. Roll—108 Sq. Ft.—1-Ply	$1.35
45-lb. Roll—108 Sq. Ft.—2-Ply	1.85
55-lb. Roll—108 Sq. Ft.—3-Ply	2.25

Order today, or write for Samples and Booklet

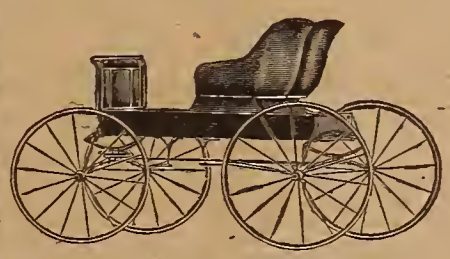
THE BREESE BROS. CO., Roofing Dept. 24, Cincinnati, Ohio

"I save you $40 on this Carriage"
Split Hickory Light Carriage—Popular for Family Use.
See Page 111 in My Free Catalog.

Don't Miss It

Don't wait another day or week to write me for this book. You know about our plan, direct to you at lowest prices, and about Split Hickory quality. But you haven't seen our Big, New Style Book for 1909 yet, and I want every possible buggy buyer to be sure to see it before buying any kind of a vehicle or high-grade harness. Just write a line to me today.

"I save you $40 on this Auto-Seat Surrey."
Split Hickory Auto-Seat Surrey.
See Page 98 in My Free Catalog.



"I save you $25 on this Auto-Seat Runabout."
Split Hickory Special Auto-Seat Runabout.
See Page 34 in My Free Catalog.

Get My Prices and Big Book of 1909 On

Split Hickory Vehicles

Save $26.50 and Up and Take 30 Days' Free Road Test

We make to order 125 styles of Split Hickory Vehicles, including all styles of Top Buggies, Automobile Seat, Two-In-One Buggies, Handsome Runabouts with Fancy Seats, Regular Seats and Automobile Seats, Phaetons, Carriages, Surreys, Spring Wagons, Harness. The Split Hickory Buggy shown at the right here made to your order for $26.50 less than your home dealer's price for anything like the value.

"I save you $30 to $35 on this Auto-Seat Buggy."
Split Hickory Special Auto-Seat Buggy.
See Page 79 in My Free Catalog.

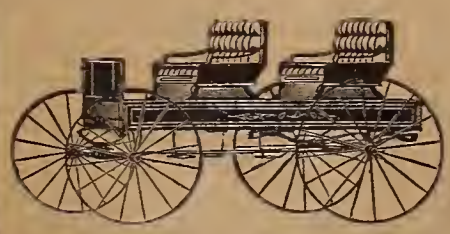
"I save you $30 on this Auto-Seat Buggy."
Split Hickory Square-Deal Auto-Seat Buggy.
See Page 58 in My Free Catalog.

"I Save You $30 to $40 on this Delivery Wagon."
Split Hickory Cut-Under Delivery Wagon.
See Page 119 in My Free Catalog.

2 Years' Guarantee

NOTE—Celebrated, Sheldon, Genuine, French Point Automobile Springs used on all Split Hickory Vehicles, making them positively the easiest riding buggies on the market.

You'll see all these styles illustrated and described in the best, biggest and most beautiful buggy book ever published. It is our this year's style book. Describes our complete line—the greatest buggy values ever offered. Send for it today. We pay the postage.



"I save you $20 to $30 on this Open Wagon."
Split Hickory Half-Platform Open Wagon.
See Page 115 in My Free Catalog.

Send For Big Free Book Today

"I save you $26.50 and up on this Top Buggy."
Split Hickory Special Top Buggy—Over 47,000 in Use.
See Page 77 in My Free Catalog.

H. C. Phelps, Pres., Ohio Carriage Mfg. Co., Station 23, Columbus, Ohio

Self-Feed 3-Stroke Eli Baling Press

Latest addition to the great "Eli" family. Three strokes with automatic self-feed makes the gang hustle. Built on lines that make horse presses really valuable. Greatest leverage when pressure is hardest. Low Step-over, Full Circle, Block Signals, etc. A little giant in strength. We've always led as hay-press builders—18 different styles, horse and belt powers. All in one catalog and it's free. Write for it.

Collins Plow Co., 1110 Hampshire St., Quincy, Ill.

I'll Save You $50 On a Manure Spreader If You'll Let Me

This is just a little ad—but a postal will bring my Big Book—and give you my $50.00 Saving Price and Special Proposition. You can save as much answering this little advertisement as if it covered a page.

My Spreader positively will do better work and last longer than any Spreader made—no matter what the price—so why pay $50 more? 20,000 farmers have stamped their O. K. on my spreader and money-saving price. My Special Proposition will interest you. Just a postal addressed to Galloway of Waterloo, Iowa, will bring you everything postpaid.

Will You Pay a Penny For The Postal and Save $50.00?

Address Wm. Galloway, Pres.

WM. GALLOWAY CO.
749 Galloway Sta. Waterloo, Ia.

Take Off Your Hat to the MYERS

The only Glass Valve Pump—never sticks—never fails—always ready. Also HAY TOOLS, Barn Door Hangers, Hay Rack Clamps. Write today for Circulars and Prices.

F. E. Myers & Bro., 30 Orange St., Ashland, O.

THE PUMP THAT **PUMPS**

Michigan Lands

SEND for my free 32-page illustrated booklet and map of the Dempsey Lands in Mason and Lake Counties, Michigan; unexcelled for general farming and sheep and cattle raising. Best land at lowest prices in Michigan. Easy terms.

J. E. MERRITT, - Manistee, Mich.

Gardening---By T. Greiner

For Bugs on Cucumber-Vines

A lady reader in Kentucky desires to know a good remedy for bugs on cucumber-vines. The brown chinch-bug is the one doing the most damage. A simple remedy for cabbage-worms is also wanted. All these are for the home garden.

The most dangerous enemy of cucumber and similar vines we have to contend with here is the yellow-striped beetle. We conquer this easily by prompt and, if necessary, repeated spraying with arsenate of lead. We use this either in Bordeaux mixture or in the lime-and-sulphur solution, making this application both for fungous diseases and insects. It protects from flea-beetle, yellow-striped beetle and other leaf-eaters. We spray these plants with a knapsack sprayer, and it does most excellent work.

The average home gardener, however, cannot be expected to have such a sprayer, costing twelve to fifteen dollars, in his garden equipment. He should have at least a hand sprayer, such as can be had for from fifty or sixty cents upward, and this will do well enough for the small operations in a little home garden.

Try to get a small can of arsenate-of-lead paste from your nearest seedsman. Dissolve this in water at the rate of about one ounce to one gallon of water. If you use a little more paste in the mixture it will do no particular harm. In fact, it may be better to make the mixture stronger when to be applied in one of these hand sprayers, as they throw far less of the liquid than is sprayed with the knapsack or a larger sprayer.

This application, however, will not hurt sucking insects, such as the large black squash-bug, etc. The latter must be picked off by hand. Other sucking insects may be killed by applications of tobacco, in dust or tea form, kerosene emulsions, etc.

Early Potatoes

Our early potatoes will not be particularly early this season. We have not yet been able to plant even the few rows that we usually have in our home-garden patch. The seed-potatoes seem to keep exceptionally well this spring, and when we do plant, which we expect we can do within a few days if no more rain comes until then, the tubers will undoubtedly start promptly and try to make up for lost time. We need the new potatoes more than ever this year, for our stock of old ones is low. But while I still plant mostly early sorts even for the main crop, especially Early Ohio and Eureka or Irish Cobbler, I shall try to plant all of them just as early as I can get my potato ground in proper shape.

This, with early potatoes, usually works much better than later planting. My heaviest yields have always come from the earliest plantings. On a rich spot in the home garden we can raise these early sorts usually at the rate of not less than two hundred and fifty bushels, and often three hundred to four hundred bushels, to the acre. It takes but a few rows in our garden (the rows being from one hundred and fifty to two hundred feet long) to furnish us our family supply of potatoes for the summer.

How to Grow Rhubarb

A Hopkinsville, Kentucky, reader wishes to know how to grow rhubarb, and especially what manures or fertilizers to use for it. Here we find rhubarb a very easy crop to grow, provided we give it warm and very rich soil. And we have never had the least trouble in selling all we could raise at an acceptable and profitable price. When spring comes, people are hungry for rhubarb sauces and rhubarb pies, and they are willing to pay fairly good prices.

Don't be afraid to make the soil too rich. A piece of well-drained fibrous loam, such as a spot that has recently been in clover, cow-peas, etc., is just the thing, and good old stable manure may be applied at the rate of forty to sixty loads an acre and plowed under. Or some good high-grade complete manure, such as is mixed especially for cabbages, potatoes or other garden crops, with possibly a little less potash than for cabbages or potatoes, might be used and applied broadcast, to the full extent that you would dare or care to, in place of, or, better, in addition to, that of compost or stable manure.

Then get your plants, which are pieces of the rootstock having one or two good eyes, and plant them in hills, four feet apart each way, so that the top or eye is an inch or two below the surface level. Plants raised from seed which are often used vary considerably in important characteristics. We want a vigorous one capable of producing big leafstalks under high culture, and leafstalks that have a decidedly red skin. Such plants should be propagated by division of the rootstock; or if seedling plants are used, those of an undesirable type should be sorted out and rejected.

This selection of plants is one point of importance. Another is the frequent renewal of the patch. The clumps of roots should be taken up every few years (third or fourth at most), the roots divided and replanted, either in the same or, better, in a new location. Apply manure every fall, or mulch between the rows with coarse litter every spring.

The crop is a spring and early-summer crop; but if the fall is not too dry and hot, we often gather fine stalks, and sell some, in August or September. Complaints often come from the more southern states that the rhubarb-plant refuses to thrive during the hotter part of the season.

Fall or Spring?

A reader in Oregon thinks that it might be advisable or feasible to sow a general line of vegetable-seeds in the fall, so as to have them start early in spring and give vegetables long before the time that they could be had from spring-sown seed. The winters are not very severe, but usually there is from three to seven feet of snow on the ground.

I can see no advantage in fall sowing under such circumstances, but many drawbacks. The snow will pack the soil, and even if plants should come up after the snow goes off, it will be difficult to get the ground loosened up and to bring it under proper cultivation. I prefer to start in anew in spring, with clean conscience and freshly-prepared, clean soil. Then everything will move on smoothly and satisfactorily.

The only crops we winter over in open ground are our Welsh onions from seed sown in spring or early summer, White Portugal or Silverskin onions from seed sown in August, for green bunching, salsify, parsnips, dandelion, kale and spinach. But these things are all taken out for use or sale in the spring.

Ground sloping toward the east, south or southeast would give earlier melons, perhaps, but northwestern exposure will not prevent success with melons.

Best Results With Asparagus

A Michigan reader asks for information as to how to set out an asparagus-bed for best results.

Easy. Get strong, one-year plants, and set them in heavily-manured and deeply-prepared warm loam, far enough apart so they will have lots of root room, say two feet by four or five, and keep free from weeds by hilling the rows after the first year.

Cut sparingly the year following the setting of the plants, and more freely after that, in fact clean up to about the time that the green-pea season begins. Then let the stalks grow up, and soon after the cutting season apply a good coat of compost or old stable manure as a mulch between and close up to the rows. If any one knows a better way, we are ready to listen.

Parsnips

Parsnips in early spring are very fine, and may be served in a number of ways pleasing to the palate. Sow them in the spring with the other hardy vegetables. For family use, only a short row, say twenty to forty feet, will be needed. We can usually secure big yields.

Any variety will do, although for very shallow soils the short-rooted ones are preferable. But let me say again, don't trust old seed. Fresh seed comes up promptly, but universally fails the second season. Be sure the seed you sow is strictly fresh. If you have two or three parsnip-roots from last year's sowing, set them in some odd spot in the garden and let them go to seed. Gather that when ripe, and next spring you will be sure of having fresh and reliable seed.

Ants in the Lawn

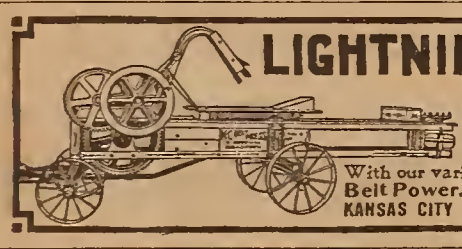
A Rock Island, Illinois, reader has trouble with ants in his lawn. He has dug some of the hills out, but in a few days the ants are working again.

There may be various ways to drive them out, but I doubt whether there is a better and surer one than the bisulphid-of-carbon treatment. Buy a can of this bad-smelling and highly-inflammable liquid at the nearest druggist's. It is perfectly safe to handle, so long as you stay away from it with a light. With a little stick make an opening into the center of the ant-hill, or two or three such openings if the hill is large, and turn a small quantity, say a tablespoonful, into the hole, which should be closed by pressing the soil over it. The fumes will permeate the hill and kill the ants.

Scabby Potatoes

The Early Ohio with us is particularly subject to scab, and this is probably due to the fact that we always plant it on ground that receives annual dressings of stable manure and is decidedly alkaline. If you want nice clean potatoes, without a sign of scab, select a rich piece that has recently been in clover, but has had no stable manure for a year or two, or a piece of land that is slightly acid, and plant this with potatoes that have either been "greened" or been subjected to treatment for scab by immersion in a corrosive-sublimate or formalin solution for at least ninety minutes.

The greening, as repeatedly stated in these columns, consists of exposure of the seed-tubers in single layer to the more or less direct rays of the sun for several days, until short and stubby sprouts are developed, which, when the potato is planted, will promptly start into strong and vigorous growth.



LIGHTNING HAY PRESSES

For 25 years the Reliable Balers.
Simple, Free from Breakage, Greatest Capacity and Best Work—Strong and Durable.
Consider these Facts for a Profitable Investment.
With our various styles can meet your requirements. Horse & Belt Power. Self Feed Attachments. Write for our Catalog.
KANSAS CITY HAY PRESS CO., 124 Mill St., Kansas City, Mo.

Don't Forget the Oil-Holes

A heavy oil is best for farm machinery or any style of bearing not fed by oil cups. Doesn't run off—stays on and wears longest. Fill the oil-holes with

Ruddy Harvester Oil

It is specially fine to save bearings already worn and loose. Takes up the "play" and quiets a rattling box as nothing else will.

Comes in quarts, gallons, barrels and half barrels.

Standard Oil Company
(Incorporated)

The Greatest Invention in Roofing History

HUTTIG

The best roofing in the world is now put on in the best way in the world.

Huttig's Green Flag Kant-Leek Kleets

will double the life of any ready roofing, but they are sold only with Huttig's Green Flag Roofing. These Kleets are the only thing that will make a perfectly tight, permanent seam with ready roofing. Cement and nails with tin discs or large-headed nails will hold for a while, but the swelling and shrinking of the building, the oxygen of the air, the sunlight and wind will soon cause seams to bulge between tacks, and bulges mean leaks. Nails often hit cracks and soon work out, leaving holes, or you drive them in crooked and the heads cut the roofing. Such nail-holes make leaks.

Kant Leek Kleets make a seam weather-tight, buckle-proof, wind-proof, remedy the effects of misdriven nails, and do away with the dauby, sticky cement nuisance. With Kant Leek Kleets, Green Flag Roofing is easy to put on and actually saves fully one-half the time in laying. It is attractive in appearance, is odorless, does not taint rain-water, is guaranteed to wear for years.

$2 in Green Flag is equal to $10 in other roofing. Saves you $8 in $10. It's in the wear. Worth while, isn't it? Do not buy roofing unless packed with Kant Leek Kleets, and don't let your dealer talk you out of this Kleet device as it does not cost you anything to have it with Green Flag Roofing.

Ask your dealer and write today, telling us the size of the roof you want to cover and we will let you know what it will cost you, and send you samples of Roofing and Kleet.

Huttig Manufacturing Company
502 E. Fifth Street
Muscatine, Iowa.

Fruit-Growing---By Samuel B. Green

Plum-Pockets

This is caused by a fungous disease which attacks the ovary when the tree is in flower or soon afterward. I think the best preventive of this disease is to spray the trees about two weeks before the buds begin to swell with a solution of sulphate of copper, at the rate of one pound to twenty-five gallons of water. The whole tree, including the twigs, should be thoroughly moistened. This is done to kill the spores of this disease, which winter over on the trees around the buds.

Double-strength Bordeaux mixture is also used for the same purpose in the same way. In order to apply this to best advantage it is desirable to use a pump throwing a fine spray, and this pump should be made of brass or copper, since the sulphate-of-copper solution will corrode iron or steel.

Pollination of European Grapes

I am not acquainted with any variety of the European grape that I know to be self-sterile, and yet my familiarity with many of these varieties leads me to believe that some of them are probably self-sterile. There are a number of crosses between the American grapes and the European that are self-sterile. Among these are the Lindley and Wilder, that are self-sterile or nearly so.

Some varieties of the European grape are hardy against cold in any section of this country where our native kinds are hardy. The reason why they have failed to grow here, however, is due to the fact that we have in this country an insect, known as the Phylloxera, which lives on the roots of our native grapes, doing little, if any, harm there, but they are very destructive to the European grapes. This insect is not native to California, but was introduced there and has become very destructive to European grapes of late years.

The Compass Cherry

The Compass cherry originated with a Mr. Knutson, of Springfield, Minnesota, something over ten years ago, by crossing the pollen of the Prunus Americana on the native sand-cherry Prunus besseyi. It is really a small plum, and the term "cherry" is something of a misnomer.

Since this variety was introduced a number of other seedlings have been raised from it, which closely resemble the parent. It ripens here between the cherries and early plums, and is about as large as a small native plum. The tree is dwarf in habit and of upright form, with foliage between that of the sand-cherry and the plum. It flowers abundantly every year, and the fruit sets well. The tree is extremely hardy, never killing back even in severest winters.

In Minnesota its chief weakness is a liability to attack of plum-rot, which sometimes will take all the fruit. If, however, the trees are well sprayed with Bordeaux mixture, the injury from this source may be prevented. The fruit makes a good preserve, and is much esteemed for this purpose, but is too puckery to make it desirable for eating out of hand.

Value of Timber

M. K. G., Uniontown, Pennsylvania—It is impossible to state the value of any tract of timber without being able to look it over or have a very careful detailed report as to what it consists of.

I do not know where you would find a market for this product. It is more than likely that if you wish to sell the stumpage you must sell to some lumberman operating in that vicinity. If you intend to cut and market the logs, then it is desirable that you sell at the point to which the logs can be most easily transported. Eight dollars a thousand for such timber as that you mentioned I am inclined to think is a fair price. If those are the prevailing prices in your section, it will be difficult for you to get more, since these prices are generally fixed by the big buyers, and there is little chance of changing them. I take it that the mine operators will buy your posts and ties (slope), etc., and that the railroad will buy your railroad ties. Eight cents apiece seems to me a pretty small price for railroad ties, but this price will be governed by location and the cost of transportation, as well as by the quality of the ties themselves.

As to whether it would be more profitable to buy or hire your own mill and do the work yourself depends so much upon your own good business judgment and your ability to undertake a thing of this kind that I hardly know what to say. Forty acres of timber is a very small amount for which to erect a mill. It is seldom worth while to put in a good mill for such a small amount of timber. On the other hand, you might be able to put in a portable mill that would rough-handle this stuff to good advantage. I cannot advise you definitely in this matter.

Peony-Plants Not Flowering

There is a great difference in the hardiness of the flowers of the various varieties of peonies as against frost, and it is quite possible that it is on account of the late frost that peony-plants fail to bloom. With some varieties, however, there is a tendency for the blooms to become blasted soon after they appear without regard to frost. You should make a strong effort to get stable manure to dig in around your peony-plants. In my yard are about one thousand of these delightful plants, and I plan to put in a good covering of stable manure every year. My soil is light, but I get good results under this treatment. If the shrubs are growing straight I do not see any need of applying other fertilizer.

Substitutes for Stable Manure

I like barn-yard manure to use about shrubbery better than almost any other fertilizer. However, if you do not have a supply of this convenient, you will get good results by the use of dry ground tankage. Use at the rate of about one half ton to the acre, and then apply about two hundred pounds of high-grade muriate of potash.

You will find, however, that in addition to applying this fertilizer, it will be necessary to add humus to the soil in some form. This may be done by digging in a covering of leaves, straw or some material of this kind. Without something of this sort, the land will become hard and compact. Commercial fertilizers alone cannot be made to take the place of barn-yard manure for best results under such conditions.

The Most Profitable Trees to Plant in Northern Iowa

O. P. I.—I am inclined to think that about as satisfactory a wind-break as you can get would be the use of white or golden willow. These trees are hardy and make a satisfactory growth, and are also valuable for fence-posts and poles for many other farm purposes. They also make good summer fuel.

The most efficient way of preventing the gnawing of trees by rabbits is to spray them with lime whitewash in which a small amount of carbolic acid has been incorporated. If this is repeated each winter there will be very little injury of this kind. Portland cement and water mixed to about the same consistency as whitewash is also a good preventive. The apple-trees that have the bark gnawed off entirely around the trunk will probably die. If, however, the injury is near the surface of the ground, so that it can be covered with soil, the wound may heal over when so treated, and the tree be as good as ever.

The best time to transplant your trees would be early in the spring and as soon as may be after the frost is out of the ground. If the soil where the trees are to be planted is of good enough quality for an average corn crop, then I do not think it necessary to put in better soil when you dig the holes. Keep the top soil and the subsoil separate, and when planting the tree put the top soil about the roots.

Cane-Rust on Raspberries

C. A. R., White Pigeon, Michigan—The piece of raspberry-cane which you sent is affected by what is known as raspberry-cane rust; more exactly it is known as anthracnose. This disease winters over on the canes, and the spores appear and spread soon after growth starts in the spring of the year. They become attached and grow upon the tender bark of the new canes which are just starting into growth. On these they form at first small reddish spots, which gradually enlarge by destroying the center. The center, as a consequence, becomes brown, and the red circle where the active fungus is at work makes a ring, and the brown spot is in the center. Where a single small infection takes place, the wounds are circular in form, but where several points of infection are near together, these spots unite and form a diseased place of considerable length.

The best treatment is to spray the canes before the buds open in the spring of the year with thick Bordeaux mixture. This will so cover the canes that the spores will have little chance of spreading. I do not think anything is to be gained by spraying old canes after the new growth appears on them, since it is quite tender and liable to be injured.

In addition to the spraying recommended, it is advisable to grow those varieties of the raspberry that are most resistant to the disease. There is quite a difference in varieties in this respect.

Arsenate of Lead

J. D. H., Sissonville, West Virginia—Arsenate of lead is used just as it comes from the manufacturer for spraying purposes, and this, in my experience, has been far more effective than that which we have made at home. It should be used at the rate of three pounds of arsenate of lead to fifty gallons of water for the ordinary spraying of fruit-trees. The great advantage of this insecticide is that it adheres so wonderfully well to the foliage and other parts of the tree, and in addition it is quite harmless to the foliage.

Bugs on Roses

O. B., Jewell, Georgia—I do not know what insect it is that eats the buds of your roses, but am inclined to think that it is the common rose-bug. This insect is slow in its movements, and can be easily picked off. It will often eat a portion off the end of the buds, and in doing this it injures the petals of the flowers. The best treatment for this, in the case of a few roses, is to hand-pick the bugs. This should be done at least twice each day.

Tamarack

C. G. S., Morgan, Minnesota—Tamarack fence-posts vary much in the time they will last in the soil. Where the wood is red it generally lasts well, but where it is largely white is is not durable. I think that ordinary four-inch tamarack poles, such as are commonly sold to farmers, and four inches in diameter at the small end, remain good for over six or seven years in ordinary soil. Seven cents each at Morgan for good tamarack posts is about as good as you can expect to get for them.

The Okabena Apple

J. H. K., Barrington, Illinois—The Okabena is a variety closely resembling the Duchess, but a little smaller in size, and ripening soon after. It originated in southwestern Minnesota. I have no doubt but that it would prove hardy and desirable in your section, but I do not think it is quite as prolific as the Duchess of Oldenburg. As you suggest, the Duchess is a good, strong pollenizer, and is a desirable variety to have in an orchard, especially on this account. The Okabena makes a good-sized, spreading tree, and is not so upright as the Duchess. I think the Okabena would probably be all right grown in a solid block, but I haven't sufficient experience so that I feel sure on this point, and I think, as a rule, it is best to mix varieties in our orchards.

Trees Damaged by Fire

N. B. B., Alder, Ohio—The chances are your apple-trees are most hurt, if at all, near the surface of the ground, as it was close to the surface of the ground that there was the largest amount of dry material and the hottest fire. I think your best treatment would be to bank up the trees with earth, so as to cover the injured portion, banking them perhaps ten or twelve inches, high enough to prevent evaporation and the drying out of the wood where exposed. It is a bad plan to allow grass to accumulate around trees, for fires such as you had are liable to occur any year; and, in addition, there is increased liability of danger from mice where there is trash around the trees. I would leave these banks of dirt on until the wounds are thoroughly healed over, probably for a year or two. It is possible, however, that you have overestimated the amount of damage that has been done to your trees.

The best Advertising the Goodhue Windmill can have in any locality is a heavy wind storm

BECAUSE, although easy to erect, it is hard for the wind to down—it has a governor that works perfectly in all kinds of weather—the wheel has double arms of heavy channel steel giving more than double strength—it has a practically noiseless brake—it is erected on a tower guaranteed against CYCLONES AND TORNADOES—and because in every way

Goodhue Windmills are Good Mills

So sure are we of our ground, that, for a nominal fee, we will insure the complete outfit, mill and tower, for five years, against anything and everything. Write today for free wind mill book. APPLETON MFG. CO. 9 Fargo Street, Batavia, Ill., U. S. A.

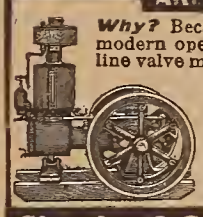
Nitrate of Soda

In Original Bags

NITRATE AGENCIES COMPANY

64 Stone Street, New York
Keyser Building, Baltimore, Md.
36 Bay Street, East, Savannah, Ga.
305 Baronne Street, New Orleans, La.
140 Dearborn Street, Chicago, Ill.
1103 Temple Bldg., Toronto, Canada
San Jose, Cal.
321 Stimson Block, Los Angeles, Cal.
603-4 Oriental Block, Seattle, Wash.

Stickney Gasoline Engines



Why? Because of the outside igniter, modern open cooling system, straight-line valve motion and ball-bearing governor. Thousands in successful operation because of our years of experience in building the best. Seven sizes: 1½ to 16 H.P.

Send for our Free Catalog and our Catechism telling fifty-seven reasons why Stickney Engines are the Best. Agents everywhere sell them.

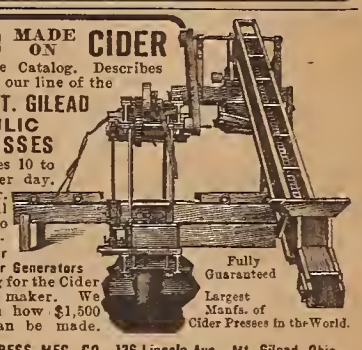
Charles A. Stickney Company
MAIN OFFICE & FACTORY ST. PAUL, MINN.

$1,500 MADE ON CIDER

Write for Free Catalog. Describes and illustrates our line of the

ORIGINAL MT. GILEAD HYDRAULIC CIDER PRESSES

Built in sizes 10 to 400 barrels per day. Hand or power. Presses for all purposes. Also Steam Evaporators, Apple-Butter Cookers, Vinegar Generators and everything for the Cider and Vinegar-maker. We can show you how $1,500 clear profit can be made.



Fully Guaranteed

Largest Manfs. of Cider Presses in the World.

HYDRAULIC PRESS MFG. CO., 126 Lincoln Ave., Mt. Gilead, Ohio

THE LARGEST AND BEST LINE OF WELL DRILLING MACHINERY in America. We have been making it for over 20 years. Do not buy until you see our new Illustrated Catalogue No. 15. Send for it now. It is FREE.

Austin Manufacturing Co., Chicago

STACK COVERS

SEND FOR CATALOGUE No. 25

OMAHA TENT & AWNING CO.
OMAHA-NEBR.

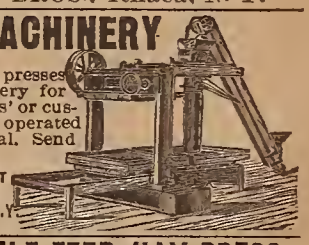
WELL DRILLING Machines

Over 70 sizes and styles, for drilling either deep or shallow wells in any kind of soil or rock. Mounted on wheels or on sills. With engines or horse powers. Strong, simple and durable. Any mechanic can operate them easily. Send for catalog.

WILLIAMS BROS., Ithaca, N. Y.

CIDER MACHINERY

The most approved presses and other machinery for large manufacturers' or custom work. Easiest operated and most economical. Send for free catalogue.



THE BOOMER & BOSCHERT PRESS CO.
99 Water St. Syracuse, N.Y.

3-STROKE SELF-FEED HAY PRESS.

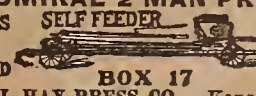
Satisfaction Guaranteed

All Steel and Iron
Two Men can run it.
The Auto-Fedan Hay Press Co.
1507 W. 12th St. K. C. Mo.
Ask for Catalogue No. 7

ADMIRAL 2 MAN PRESS.

3 FEEDS TO THE ROUND

SELF FEEDER



2 PROFITS IN HAY BALING

BOX 17

ADMIRAL HAY PRESS CO., Kansas City, Mo.

PATENT SENSE and PATENTS THAT PROTECT yield our clients enormous profits. Write us for PROOF. Inventors lose *millions* through *worthless* patents. R. S. & A. B. LACEY. Dept. 49, Washington, D. C. *Estab. 1869.*

PATENTS SECURED OR FEE RETURNED.

Free report as to patentability. Illustrated Guide Book, and List of Inventions Wanted, sent free.

EVANS WILKENS & CO., WASHINGTON, D. C.

"PRISCO" COLD BLAST LANTERNS DON'T SNEEZE

There isn't a raw edge at any part of the Prisco lantern. There isn't a weak point in its construction.

But *that's* not why it doesn't *sneeze.*

SEND FOR OUR FREE BOOK

It not only tells why Prisco lanterns don't sneeze, but it has page after page of lantern facts and Prisco proofs that will interest you.

THE PRITCHARD-STRONG CO.
6 Circle Street - Rochester, N. Y.

This is a Real Automobile on High Wheels

We ask experts to read our catalog and take our cars apart to discover how we could improve them. And we ask you to send us your name and read our catalog to understand why we have spent so much time and money to make the Schacht the highest standard high-wheel automobile in the world. You should not risk buying any car of this type before investigating the differences in money-worth values. Write us for the book.

THE INVINCIBLE SCHACHT

Schacht Mfg. Co., 2730 Spring Grove Ave., Cincinnati, O.

Genasco Ready Roofing

Made of Trinidad Lake Asphalt, nature's great weather-resister. For every building on the farm.

Every roll guaranteed. Look for the trade-mark. Write for samples and Good Roof Guide Book.

THE BARBER ASPHALT PAVING COMPANY

Largest producers of asphalt and largest manufacturers of ready roofing in the world.

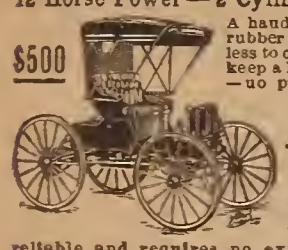
PHILADELPHIA

New York San Francisco Chicago

The Economy Motor Buggy

12 Horse Power — 2 Cylinders — Air Cooled

$500



A handsome, practical, solid rubber tire motor buggy. Costs less to own and operate than to keep a horse—no tire troubles—no punctures or blow-outs.

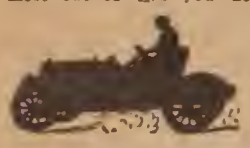
Most Economical Motor Vehicle Made

Suitable for country or city—rough roads no obstacle. A great hill climber—goes anywhere 4 to 20 miles per hour. Absolutely reliable and requires no experience to operate. Every "Economy" is fully guaranteed. If you are interested in a Motor Buggy, we have the best proposition to make you that you have ever heard of. Write us at once for catalogue and full particulars.

ECONOMY MOTOR BUGGY CO.,
Department Y Joliet, Illinois

AN AUTO MEANS A NEW LIFE.

You don't know your country—you don't get the most out of life—you don't enjoy yourself as you ought to if you haven't a motor. Thousands say this. We are the largest firm in the world dealing in new and used autos. We have them from $150 up. Get our big cut-rate bargain list. Deal with a responsible house. References: Dun's, Bradstreet's or Metropolitan Bank, New York; National Newark Banking Co., Newark, N. J.; Foreman Bros.' Banking Co., Chicago, Ill. Write to-day.



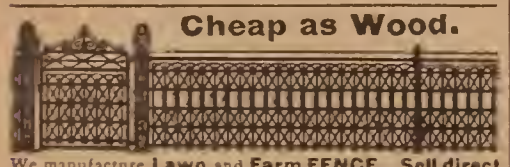
TIMES SQUARE AUTOMOBILE CO.,
NEW YORK: 1597 B'way & 215-17 W. 48th St. CHICAGO: 1332-34 Michigan Ave.

CHICK SAVING COOP

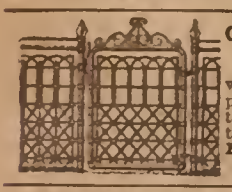
Keep chicks warm and dry and save them from Rats, Weasels, Lice and Mites in the all metal Sanitary Brood Coop. Exclusive pattern, made only by us. Adds 100% to profits. Knocks off 60% from cost of poultry raising. Easily taken apart and stored. Send for Free Circular. Agents wanted.

Des Moines Incubator Co., 254 Third St., Des Moines, Iowa.

Cheap as Wood.



We manufacture Lawn and Farm FENCE. Sell direct shipping to users only, at manufacturers' prices. No agents. Our catalog is Free. Write for it to-day.
UP-TO-DATE MFG. CO., 971 10th St., Terre Haute, Ind.



ORNAMENTAL FENCE
25 Designs, All Steel.
Handsome, cheaper than wood, more durable. Special prices to churches and cemeteries. Don't buy a fence until you get our free catalog.
Kokomo Fence Machine Co.
427 North St., Kokomo, Ind.

WARD FENCE Farm and Poultry.
Old fashioned galvanized. Elastic spring steel. Sold direct to farmers at manufacturers prices. Write for particulars.
Ward Fence Co., Box 532 Decatur, Ind.

About Practical Poultry-Raising

Wheat Bran a Safe Food

A NICE letter comes to us from Mrs. A. A. M., in the course of which she asks if wheat bran is a safe food for poultry. She has used it as a noonday meal continuously since she began keeping poultry two years ago, and has had three or four hens which had weak legs, due, as some of her neighbors tell her, to feeding this ration.

It does not seem to me that the weakness of the legs was in any way due to bran. At least we never have had any difficulty of that kind, and we have always used bran. It is true that of late years there is a good deal of impure bran on the market. In buying, it should be the endeavor to get just the best bran possible.

Very likely our friend has not fed this clear, although she does not speak particularly as to that. By mixing the bran with corn-meal and beef scraps it makes a good ration, and I would feed it in the morning or at night. If fed in the morning, the noon meal might be of wheat, barley, oats or millet, while the evening meal might be cracked corn. Some kind of green food should be where the hens can get it all the time, as should grit and shell. The idea is to provide a variety and as nearly as possible a balanced ration.

And then our friend asks about methods of forcing early molting, for the purpose of getting eggs in winter. The plan of some is to just about starve the hens for a few weeks in August and then suddenly press upon them a heavy feed. But I do not like this plan. It seems to me Nature knows more about such things than men-folks. I would far rather give a food rich in nitrogen, and trust that to help the hen through this trying time a little sooner. The ration referred to above for morning will do well if you use about half corn-meal, the other half bran and beef scraps. At noon I would feed wheat or barley, and at night cracked corn, with green feed, as cabbage or clover or grass, all the time. Sunflower-seed or linseed-meal are good at such seasons. These things are feather-making materials, and that is what the hen must have.

E. L. VINCENT.

Loss of Ducks

A FRIEND sends us this note of inquiry: "I had sixty-five ducks die last year. They would seem to be all right, then all of a sudden they would appear to lose their senses and fall around. Their heads would droop and roll around, and in a few hours they would be dead. Can you tell me the cause and remedy?"

From the information given it is difficult to tell just what is the cause of this trouble. Sometimes death comes suddenly to young ducks in hot weather when they have not sufficient shelter from the rays of the sun. The birds seem dizzy and throw their heads upward or backward, while they are as apt to go backward as forward when they set out to walk. If our friend has not given his ducks shade in hot weather, he would do well to furnish it and note the result. Lack of green feed might also cause the trouble. Ducks need a good supply of this.

E. L. V.

The Trap-Nest and Its Value to the Poultry-Breeder

PRACTICAL poultrymen the world over are acknowledging the usefulness of trap-nests, but those who have not used them do not realize the great advantage the breeder has who does use them, and how many little points they unfold to him. The poultryman without the trap-nests, whether breeding for market, for eggs or for fancy stock, is working as much in the dark as would be the big department-store that did not keep books.

The department having apparently the biggest trade might not be the most profitable, and there would be the possibility that it was not profitable at all, or that it was losing money; and so with the hen, the one laying the largest eggs or the one laying the greatest number of eggs, or both, may not lay one single egg that will hatch, and while seemingly the most profitable hen, she is worse than none as a breeder, or, in other words, she is not what she seems to be.

From the articles that have been written on trap-nests thus far the general public would be led to believe that they were only of use in determining and increasing the egg-yield, and while their value in this is enough to warrant their use and pay handsomely for the extra expenditure and labor necessary, still it is only a secondary consideration.

The selection of specimens for the breeding-pens involves the study of the different qualities and faults of each individual, which should be weighed and considered, one with another. Many of these can only be properly recognized through breeding-inheritance and ancestral-family characteristics. Each individual breeding-trait, whether merit, blemish or habit, can be ascertained to a certainty in regard to its relation with sire, dam, grandsire, granddam, etc., only by means of the trap-nest, with its corresponding individual record.

The first and paramount consideration in selecting a breeder should be constitution. Never under any circumstances should a bird be selected that has ever seen one sick day. The selling as breeders of cured fowls has been the greatest stumbling-block standard-bred poultry has ever had.

In selecting specimens showing the greatest constitution, together with extra strength and vigor, we should observe very closely the head, and especially the eye and beak. A good cattle-buyer will tell you that if he is only to see one part of a steer when buying feeders, he would prefer that part always to be the head; and if I could see only one part of a bird in selecting breeders for constitutional strength and vigor, and in fact everything except fancy points, I also would prefer that part to be the head. Let us demand a red, bright bay eye, as nothing else so strongly denotes a good constitution; but of course we all would wish to see each and every part of the fowl, and to examine each and every section, before placing in our breeding-pens.

After having selected only such specimens as have exceptional constitutional strength and vigor, we must then go over them once more, carefully choosing only those that we feel confident, from experience and a knowledge of their ancestry, will produce, when properly mated, exceptional specimens coming as nearly as possible to all standard requirements.

We are now ready, by means of records obtained through the use of the trap-nests, to discard all specimens that lay continuously undersized eggs, overlarge or double-yolked eggs, poorly shaped eggs, eggs with rough, uneven shell and very thin-shelled eggs. The males having been selected most carefully by duly considering their ancestral backing and their individual merits, we will mate with each male the females which will balance and nick to the best advantage, always giving males as they rank the preferences.

The eggs from stock thus mated, if incubated under hens or in pedigree-incubator trays in such a manner that we will know the sire and dam of each chick hatched, will show the results from each pair of birds, with no guesswork. This is all much easier said than done, but if we will carefully follow this system from year to year we will soon find that there is far greater value to trap-nests than merely to assist in detecting the best layers and increasing the egg-yield. We will find many pleasant surprises and also many disappointments. Oftentimes from the specimens that we expect the most, we will receive the least in eggs, fertility and high-class progeny.

C. A. UMOSELLE.

Ducks Without Water

A SUBSCRIBER whose premises are remote from water asks how he may raise and keep ducks, and how to feed them.

There is quite a difference of opinion among the raisers of ducks as to the necessity of water, some holding that they must have free access to water or they will not thrive, while others say they have had better success without water than with it. One of the latter class of men tells us that he procured a greater percentage of fertile eggs from ducks shut up in close quarters than from those which were given free range.

Without entering into the merits of these varying opinions, let us suggest to our friend who wishes to grow ducks, but who cannot give them water save for drinking purposes, that he will do well to change their yards and pastures now and then, giving them new quarters and plowing up the old grounds and planting them to some crop for a year or two. In this way he will be more secure from diseases which follow long confinement on the same ground. It also helps to scatter coal-ashes or sawdust or some similar material over the earth while the ducks are pasturing on the ground. Cleanliness is very necessary. Pure water at least for drinking must be furnished, and this ought to be renewed two or three times a day.

As to feed, everybody who knows anything about ducks knows that they have a terrible appetite and will eat almost anything that may be given them. These suggestions, however, are given: When ducks are first hatched they need nothing for a whole day. Then begin with dry bread well soaked in milk. Do not give them milk to drink, though, as they are apt to daub themselves over with it, and so cause their feathers to come out. A good ration is equal parts of corn-meal and wheat bran and middlings for the first two weeks. For green feed, rye, fresh grass or corn-stalks are good. When three or four weeks old ducks may be fed ground bone, beef scraps and cooked meat.

Old ducks may be given two meals a day of corn-meal, wheat bran, boiled potatoes and turnips, with a small percentage of ground beef scraps. At noon feed dry feed, like cracked corn, oats and wheat. When they begin to lay in spring the proportion of corn and animal food may be increased, while the amount of wheat should be lessened. On free range ducks get insects and do not need so much animal food of a commercial nature.

E. L. V.

A Scaly-Leg Cure

THE scaly condition of a fowl's leg is caused by a minute parasite burrowing beneath the scales. This causes much discomfort to the fowl, and in the worst cases proves fatal to the health and usefulness of the bird.

I have used kerosene, lard, etc., for a cure of this bad disease, but with poor success. The kerosene-and-lard mixture should be applied persistently to effect a permanent cure, and this is very inconvenient, especially with a large flock. The most satisfactory remedy I have ever used is as follows: Get five cents' worth of naphthalene flakes, and dissolve them in kerosene. Dip the fowl's leg in this, being very careful not to get any of it on the skin, as it will blister. Do this two or three times and you will find that the scales can be easily rubbed off. In a few days repeat, and the legs will be smooth and clean. It is also a good plan to paint the roosts with the same kind of mixture.

If the naphthalene flakes cannot be procured at your druggist's, get common moth-balls and pound them to a fine powder. If this disease appears in your flock, stamp it out, as it is very contagious and harmful. Never set a hen with scaly legs, for the chicks will take the same disease from the mother hen.

A. E. VANDERVORT.

Coops for the Summer Chicks

ALL styles and sizes of coops for the chicks may be seen in a trip through the country, and as chickens are raised in all of them, the style doesn't really matter, so long as they are constructed properly. The old-fashioned "A" coop is probably met with more often than other styles, for the reason that this type of coop sheds water well. If boxes from the stores are used, the tops should be given a slant. Also cover the tops with tar paper.

If coops are located on a high, dry place, floors may not be necessary; however, in rainy seasons they will be sure to be damp, and nothing is more fatal to chicks than dampness, so floors will not come amiss. Movable floors are best, as they are more easily cleaned.

The coops should be well ventilated. A number of chicks will generate considerable heat, and on warm nights this must be allowed to escape. Holes at the back and the front of the coops near the top will give sufficient ventilation. If at the top of the coops, drafts of cold air cannot strike the chicks. If there are rats around, it is best to cover the openings with wire netting. Also protect with hoods, to exclude driving rains. In hot, sultry weather it may be necessary to fasten on screen doors, or the chicks will get too warm.

Keep the coops clean, and air and sun frequently. After rains remove the floors and turn the coops up to dry out. They cannot be kept too dry or too clean.

W. F. PURDUE.

A kernel picked up by scratching is worth two found without.

Corn well parched and freely fed often goes very far toward bringing a flock of chickens over the cholera. G. H. G

Live Stock and Dairy

Bloat in Cattle

THE season is now approaching when unless those who use clover pastures are careful they will be liable to have bloat in their cattle. There is even greater danger with alfalfa than with clover. The temptation to turn onto these lush pastures early in the morning before the dew has dried away is very great.

Cattle should never be turned on fresh clover pasture when it is wet with dew or rain. When they are hungry they should not be turned onto it, even if the pasture is dry. It is best to fill them up and then turn them onto it for half an hour at first, then a little longer the next day, until they have become accustomed to it. Steers or stock cattle can then be left on the pasture day and night. If this method is followed there will be very little danger.

Where the slightest danger is apprehended it is always well to keep an eye on cattle that have been turned onto clover pastures. As to remedies, there is but one sure one after the animal shows distress, and that is the use of the trocar and cannula. The trocar is simply a sharp-pointed awl, and the cannula a little thimble or sheath open at both ends which is put on the end of the awl. This is driven in with the awl, and remains when the trocar is removed, allowing the gas to escape. After the animal is relieved this can be removed.

Every farmer should have this little tool ready when wanted. If, however, it is not available, the incision can be made with a clean knife, putting in a goose or turkey quill with both ends open, and holding it there till the gas escapes.

The place to insert the trocar or make the incision is on the cow's left side in the center of the depression between the last rib and the hip-bone, or between the last rib, the spine and the large, protruding bone. This simply punctures the rumen, or paunch, and allows the gas to escape. After this the animal should be given a dose of physic. Epsom salts is probably the best.

WM. H. UNDERWOOD.

Problems of Our Sheepmen

"THE dogs were in grandfather's sheep again last night. Killed two and bit a number of the others. He feels terribly about it!"

So wrote a lad from the farm to a friend down town; and in those few words he gave voice to one of the most serious phases of the sheep industry of this country. It has come to a pass in many sections that farmers are choosing between dogs and sheep, with the result that thousands have given up the sheep because their neighbors do not see their way clear to give up the dogs. As the laws now are, farmers who suffer from loss of sheep in this way may call the "fence-viewers," or, in other words, the highway commissioner and two of the assessors, who visit the farm where the damage has been wrought, see the sheep which have been bitten, and fix the money damage to the owner. This amount is paid out of the proceeds of a tax levied on the dogs of the township, and very rarely amounts to the full worth of the sheep. Very often in late years the sheep damages exceed the tax levied and collected on the dogs by hundreds of dollars, showing the serious phase of the sheep question from this standpoint alone.

But the farmer whose flock has been visited by dogs knows that the loss of the sheep actually slain is small compared to that suffered by the rest of the herd. It is a fact that for months after being chased by dogs the flock does badly. Whether it is the fear which exists lest future attacks be made, no one seems to know, but certain it is that the sheep which remain grow thin in flesh, are wild and apparently uncomfortable.

Again, the prices for wool which have existed for a year or more have tended to discourage the sheepman. No wonder this is so. No wonder, either, that we should see signs of a great wool trust. Still another unfavorable indication is the tendency to tinker with the tariff on wool. What will be the outcome of the agitation on this subject is so wrapped in uncertainty that many hesitate to venture into sheep to any extent.

In view of these things, the edge is taken off what might otherwise be keen surprise at the report recently made that one of the richest cargoes of wool ever brought into this country was not long ago landed at New York. This wool came from Australia and Argentine. Eleven thousand bales of this wool, valued at a round million dollars, was laid down on the wharf in that city. This displaces just that amount of home-grown wool, or would displace it if we had it to be crowded aside. It is not a very pleasant commentary upon the wool industry of the United States that that enormous amount of wool finds a market with us. We ought to produce every pound of that wool, and we might, and probably would, do it, providing the conditions were more favorable. But "things is as they is." What can be done about it?

In the first place, the dog laws of this country ought to be made still more stringent. The tax should be placed so high that the hordes of worthless dogs would be driven out of the country. This would be no hardship, for the average dog is no credit to the man who owns him, but rather a source of disgrace. A good dog we all love, and we respect the man who keeps him and does the right thing by him.

Again, such dogs as are left in the country ought to be so tagged that they may be known wherever they go. This would not be a costly thing to do, and ought not to be objected to by any fair-minded man. A nice collar about the neck would be all that would be necessary, providing, of course, that it bore the number of the dog and any other data that might be required to trace him home.

When it comes to the other problems named above, it should not be difficult to fix the tariff rate on wool which would afford ample protection to the American breeder of sheep. The trouble is and has long been that the tariff has been the plaything of men, who use it to build themselves up or to tear their neighbors down. What we ought to have is fair, sane and judicious tariff adjustment. When we will get this is doubtful, so long as politics is permitted to dominate in the regulation of all economic questions. It is not to the credit of our legislators that this is so. If there is any place where impartial legislation should prevail, it is in matters pertaining to great agricultural industries like sheep-growing.

Meantime? In spite of everything, we ought to hold onto sheep. They are a fine form of stock-breeding. In the heart of most of our farmers there is something of the shepherd. Let's keep that instinct alive; but let us also work tooth and nail for better conditions. We can get them if we are earnest enough.

E. L. VINCENT.

Rape for Cows

A GREAT number of farmers grow rape for pigs and sheep, but think it of no value for cows. This is a mistake. Milch cows like rape, and do well on it. One man who sowed a patch of rape for his cows turned them in on it about the middle of July. He had been feeding his cows some oats with the grass they received. Now he took away the oats, and instead of losing in the amount of milk, they increased sixty-five per cent. The rape seemed to be just the thing they needed at this time.

The cows must be turned into the rape-patch in the middle of the day, and that for only a short time at first, for fear of the bloat. After they become used to it, they can remain in all day. There is no danger of taint in their milk from their feeding on rape.

The farmer who has a large number of cows will do well to see that they have a patch of rape to run on this summer at least part of the time.

W. D. NEALE.

No more paint for me! I've now covered every roof on my place with Amatite.

TO buy a roofing that requires painting is inviting trouble.

Painted roofings are as out of date as the harvester machinery of thirty years ago.

The roofing of to-day needs no painting. That's one of its great features.

If you are still using the "old rubber kind," the kind that requires painting every year or two to keep it tight, we want to tell you about Amatite; why it *needs no painting;* why it *wears longer* than the "smooth surfaced" roofings, and why it *costs less.*

First — Its chief ingredient is Coal Tar Pitch — not a "secret compound" but a well known, long tested material, recognized by engineers as the greatest waterproofing material known. *Two layers* of this material are used in every sheet of Amatite.

Second—We use two layers of the best grade of wool felt to hold the pitch in place. This wool felt gives tensile strength to the roofing, and is the best material known for that purpose.

Third — On top of these four layers is a *real mineral surface.* This surface requires absolutely no painting, and adds materially to the life of the roofing. It is fire retardant. It is permanent.

FREE SAMPLE

We want to send you a sample so that you can see what a solid, substantial waterproof roofing Amatite really is. Write to-day. Address nearest office.

BARRETT MANUFACTURING CO.

New York, Boston, Cleveland, New Orleans, Chicago, Cincinnati, St. Louis, Kansas City, Philadelphia, Minneapolis, Pittsburg, London, Eng.

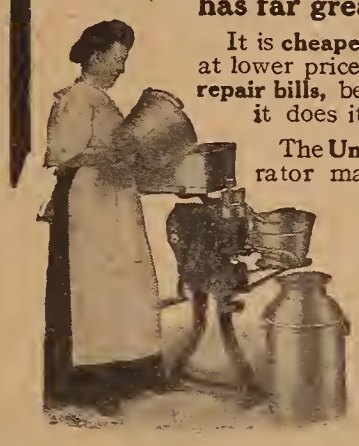
The **CREAM SEPARATOR** For **DISCRIMINATING BUYERS**

The 1909 Model United States

Among the leading breeders and discriminating dairymen the **United States Separator** is recognized as the **Best High Grade Separator made,** *and is used by them.*

We want the opportunity to demonstrate to prospective purchasers that the **United States** is **cheapest in the long run.**

It costs no more than other Separators of equal capacity. It lasts longer, gives less trouble and has far greater cash value.



It is **cheaper** in the end than Separators selling at lower prices, because there are practically no **repair bills,** because it does **better work,** because it does it **easier.**

The **United States Separator** is the closest skimming Separator made. It *Holds the World's Record* made in fifty consecutive runs on milk from ten different breeds of cattle.

United States selling agents in every dairy section **will allow free trial** to any prospective purchaser. If you do not know the address of the local agent, write us for Catalogue No. 69 and your request will be promptly attended to.

VERMONT FARM MACHINE CO., Bellows Falls, Vt.

N

OSGOOD "Challenge" Wagon Scale

Who weighs the prodncts that you buy and sell? If you use somebody else's scales, you're going more or less "by guesswork." Install an Osgood Scale of your own and KNOW your weights—get full value for everything. Many styles to select from. Prices within your reach. Write for Catalogue

OSGOOD SCALE CO., BOX 165 BINGHAMTON, N.Y.

WAGON SENSE

Don't break your back and kill your horses with a high wheel wagon. For comfort's sake get an

Electric Handy Wagon.

It will save you time and money. A set of Electric Steel Wheels will make your old wagon new at small cost. Write for catalogue. It is free.

ELECTRIC WHEEL CO., Box 96, Quincy, Ill

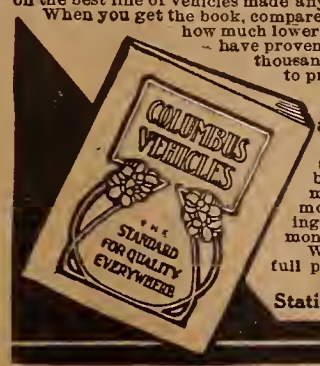
Will You Spend One Penny To Get a Buggy Book That Saves You $25 to $40 Cash?

JUST a penny will buy a postal card and that is all that is required to get our free book. All we want is your name and address on the postal card. We will send the book and pay the postage.

Don't pay your good money for a vehicle or harness of any kind until you get this book, because it will quote you factory prices on the highest quality vehicles, sold direct to you from our Columbus factory, on a full month's trial, and two years' guarantee.

This book, with its selling plan, has saved buggy users hundreds of thousands of dollars on the best line of vehicles made anywhere by anybody.

When you get the book, compare our buggies and harness with anybody else's and see how much lower our prices are and how much better the quality. We have proven the quality of the old, reliable Columbus vehicles to thousands of thousands of buggy users everywhere, and want to prove it to you, and,



Our Low Prices—One Full Month's Trial and 2 Years' Guarantee Will Please You

Make your selection from our complete line, all sold direct to you from our factory at lowest rock-bottom factory prices. Keep the dealers', jobbers' and middlemen's profits right in your own pocket. Use the money for something else. Don't pay anybody for tacking onto the price. Deal direct with the maker and save money.

Will you write the postal today and get this book and full plan? Address

Columbus Carriage & Harness Co.
Station C8 Columbus, O.

75 Styles Shown In Our Big Free Book

COLUMBUS BUGGIES

CURE YOUR HORSES

While They Work On 15 Days' Free Trial

Without Cruel "Sweat-Pads"

Cost no more than old-style collars—fit any horse—over 4,500 harness dealers sell them on 15 days' free trial to prove satisfaction or money back without question on our guarantee to cure the worst bunches, galls, sores or bruised necks while the horse works.

Keep your horses well with

WHIPPLE HUMANE HORSE COLLARS

Don't use Cruel "Swoat-Pads" and old-style, misfit collars which only make your horses' shoulders worse—Just try these collars—No risk to you—No pressure on shoulder-blade or bones where sores come—No pressure top of neck or on windpipe—45 sq. in. pulling surface on each shoulder, properly distributed—only 10 sq. in. on other collars. Get our interesting FREE BOOK. Thousands of testimonials and experience of 3 years proves this the greatest horse collar ever made. 60,000 in use. Write nearest factory if your dealer hasn't got them yet.

HUMANE HORSE COLLAR CO.
1629 Lowo Street, Chicago Heights, Illinois
1978 South 13th Stroot, Omaha, Nebraska

The GOLDEN ROD CREAM SEPARATOR

Here is a fact that means dollars and cents to you:—

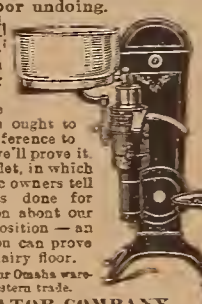
Every sale we make is made on the guarantee that the Goldenrod will prove to be a better separator.

And all these sales stick, as we have said—none of the separators comes back.

In other words, we meet and defeat competition.

We prove that the Goldenrod gets all the cream—which means more cream than any other separator gets.

We prove that it worke easier and better—because of its frictionless chain drive. If we didn't prove these things, the broadness of our claims—the sweeping character of our guarantee—would prove oor undoing.



If we didn't make good on all our claims, our business would be going backward—instead of which onr sales are increasing by leaps and bounds.

Give us a fair, square chance to prove that you ought to own the Goldenrod in preference to any other separator, and we'll prove it.

Write first for the hooklet, in which thonsands of enthusiastic owners tell what the Goldenrod has done for them, and we will tell yon abont our special free trial proposition—an arrangement whereby yon can prove our claims on your own dairy floor.

Competent Agents Wanted. Our Omaha warehouses promptly supply Western trade.

MERIT SEPARATOR COMPANY
Oxford, Pa. Dept. B Omaha, Nebr.

$50 TO $300 SAVED

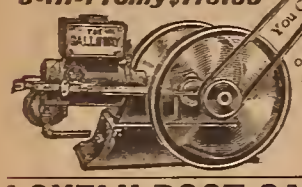
We are manufacturers, not merchants. Save dealers, jobbers and catalog house profit. I'll save yoo from $50 to $300 on my High Grade Standard Gasoline Engines from 2 to 22-H.-P.—Price direct to you lower than dealers or jobbers have to pay for similar engines in carload lots for spot cash.

GALLOWAY

Price and quality speak for themselves and yon are to be the sole judge. Sell your poorest horse and buy a

5-H.-P. only $119.50

You Can Make From $5 to $10 a Day



Direct From My Factory on 30 Days' Free Trial. Satisfaction or money back. Write for special proposition. All you pay me is for raw material, labor and one small profit. Send for my big BOOK FREE.

Wm. Galloway, Pres.
Wm. Galloway Co.
745 Galloway Station
Waterloo, Iowa

LOVELY POST CARDS GIVEN

Three choicest artistic Souvenir Post Cards, beautiful colors, absolutely without cost, if you send stamp for postage. W. H. GATES, 182 W. 8th St., Topeka, Kansas.

NEWTON'S Heave, Cough, Distemper and Indigestion Cure. A Veterinary Remedy for Wind, Throat and Stomach troubles. $1.00 per can, of dealers, or express prepaid. Send for booklet. The Newton Remedy Co. Toledo, Ohio.

WANTED AGENTS TO SELL THE FARMER'S ACCOUNT BOOK. Quick seller, big inducements. Twenty thonsand already sold. Endorsed by all. Address L. L. SYPHERS, Fort Wayne, Ind.

Live Stock and Dairy

Influence of the Sire

ONE of the most important factors in the dairy is using a good sire. A writer illustrates this principle very well this way: "If the bull be of inferior breeding, it affects all the calves of his get, more or less, in the entire herd. But if there is a single cow that is inferior, the loss extends no farther than her own calf." This is very true and it emphasizes the truth of the old maxim, "The bull is half the herd, for good or bad." When farmers get this idea into their minds, full size there will be less fooling with inferior bulls or sires of any kind. In reality it is this low, cheap estimate of the value of the breeding of the bull that is at the bottom of all the poor, unprofitable cows that we find around the country. Of course, if a man has a poor estimate of the value of the sire, he is very apt to set a poor estimate on what he should do in other things.

There is another mistaken idea which prevails very largely with farmers who have not looked into this question of breeding as they ought to. They think that if they have a good cow, she will produce a good heifer, no matter how she is bred. It is that overconfidence in the mother that makes them so indifferent to good qualities in the sire.

We may have the best soil in the land, but if we use poor seed we shall harvest disappointment.

Then, again, if the mother is a good grade, and of course of mixed blood, there is just as good a chance that she will breed from the inferior elements in her nature as from the superior, unless she is always coupled with a superior male.

It is a very great mistake to suppose that a good cow of inferior breeding is thereby qualified to drop good calves. We must look deeper than her performing power at the pail for her ability to give us profitable heifers. Her veins must be heavily stored with the blood of high-performing ancestors, and she must be bred, if possible, to a sire of still richer inheritance. This puts us on a constantly ascending grade, and even then we have reverses enough.

A. E. VANDERVORT.

Growing Rape for Hog Pasture

THE great value of the rape crop to the hog-producer lies in its power to furnish an abundance of succulent food in a relatively short length of time. Its chief advantage is its use as a catch crop, to be sown along with or immediately following the removal of the regular crops grown upon the farm.

The useful ways rape may be economically grown for hog pasture upon the average farm are practically unrestricted. The mere fact that rape is a forage-plant well adapted to most kinds of soils rich in available plant-food, and that it can be sown any time during the growing season and develop sufficiently for pasturing, makes it preëminently a most valuable forage crop for the farmer.

I have grown rape for hog pasture both as a catch and forage crop for more than eight years, and consider it indispensable in the economical raising of hogs. Yet I consider its principal value to the farmer lies in its usefulness as a catch crop.

One of the principal places where rape can be advantageously grown as a catch crop is immediately following the removal of rye. When it is not desirous to reseed the rye ground to wheat or oats, it can be refitted with a disk-harrow without plowing, and seeded to rape. The rape will make quick growth, and in many instances I have secured a nine-inch growth in seven weeks from the time of sowing.

Rape can be sown to a great advantage for pasturing purposes in the corn-field. When sown early in the corn it comes on very rapidly after the crop is removed, and furnishes a large amount of fall feed. The most satisfactory results from sowing rape in corn comes when the crop is removed, immediately at harvesting and put into the silo. The tramping during the corn harvest will not materially injure the growth of the rape. The field is then clear for turning into without hindrance.

When rape is grown for hog pasture as a catch crop, it should be sown broadcast. The land should be well fitted. The stubble which remains upon the surface after preparation will not materially interfere. The seeding can best be accomplished with the grass-seeder, putting on at the rate of four pounds to the acre.

C. A. UMOSELLE.

Feeding Lambs After Weaning

AFTER weaning my lambs, which I do about the middle of June, when they are three and one half months of age, I divide them into two flocks—the rams in one and the ewes in the other.

Their feed consists of white clover, rape, cabbage and early turnips fed in the order named. The lambs are allowed the run of a new grass lot during the day for several hours, and when the crops are harvested they are changed to the stubble-fields.

When old mangels are available they are given for a few weeks, sliced. Some grain is fed, about one eighth of a pound a day at the beginning, and gradually increased, so that when the lambs are six months old they are eating about one half pound a day.

During the fall and winter they are pastured on white turnips and have the same grain allowance, with as much good clover hay as they will eat at all times.

I always keep rock-salt in the troughs and sprinkle common salt on the feed once each day.

I practise regularity and uniformity in feeding, which is of prime importance. The sheep themselves become wonderfully punctual and regular in their habits, and when properly managed, the feeding begins at precisely the same time, and proceeds in regular order each day.

WM. H. UNDERWOOD.

Watering the Heated Horse

HOT horse—immediate overdraught of cold water—dead horse!

Be careful about watering the hot horse these warm days. Give plenty of fresh, cool water, but do it in the right way.

The old whim of keeping a horse from water when he is hot is rapidly passing away, but there is a proper method of procedure in allowing the animal to quench his thirst.

The sudden shock caused by cold water being taken into the system in great quantity when the body is so hot is what impresses people with the wrong idea. The horse simply follows his instinct to quench his thirst the quickest way possible, and in so doing, brings about the harmful effect which often proves fatal.

When the horse has become heated and tired, lead him to moderately-cold water, allow him to take a few swallows—and only a few—then hold him away from the water a minute or so. This small amount of water permits the temperature of the body to become equalized by degrees, instead of being flooded all at once by a great quantity. Repeat the operation, and by the time you allow the horse to drink the third draught, the heat is checked, every organ is ready for the cooling process, and you may let the animal drink to his heart's content, without fear of any dangerous after-effect.

M. A. COVERDELL.

CONGO ROOFING NEVER LEAK

A SURETY BOND WITH EVERY ROLL

WE don't ask you to take our word for the durability of Congo. We give you a genuine *Surety Bond* issued by the National Surety Company, giving you absolute protection and the certainty of satisfaction.

This Surety Bond is wrapped with every roll of Cungo. On our threeply grade it guarantees the roofing for *10 years*. There is no catch about it. The bond means that we have satisfied the National Surety Company that we will stand by the provisions of the guarantee; and if we should fail to do so, the loss will fall on them.

This SURETY Bond is as good as a Government Bond.

WITH Congo on your roof, and the bond in your safe, you are absolutely protected.

IF Congo was made of paper it would still be the best roofing to buy with such a guarantee, for the guarantee means that we will keep you satisfactorily roofed for ten years, and that is what you want.

But of course Congo is not made of paper, but of such *durable, waterproof* materials that there will be no trouble or complaint during the ten years. If it were not the Surety Company wouldn't guarantee it.

FREE SAMPLE

LET us send you a sample of Congo, together with a copy of the Guarantee Bond. Both free on request.

UNITED ROOFING & MFG. CO.
Successors to Buchanan-Foster Co.
553 West End Trust Bldg., Philadelphia, Pa.
Chicago San Francisco

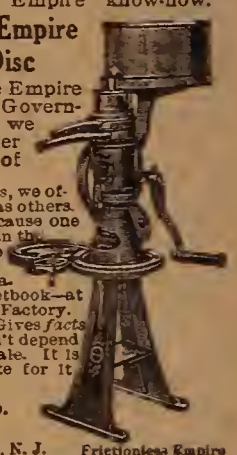
The Leading Cream Separators of Different Styles Are EMPIRES

Take your Choice of Style, Price and Size

You know that there are two styles of separators which are recognized as standard. Other manufacturers each make *one* style. Each claims that his *one hobby* is the "only" one. Each will try to force his one style on you, whether it's what yon want, need and want to pay for or not. This is *not* the Empire way.

We saw the good in both styles, if rightly designed, made of the right materials by the right men. So here is the result of Empire inventions, Empire materials, Empire workmen and facilities and Empire "know-how."

The Frictionless Empire
The Empire Disc



All are backed by the Empire Gnaranty, as good as a Government Bond—because we know that each is better than any other make of separator at any price.

As each style has *all sizes*, we offer twice as wide a choice as others. Empires differ in price because one style costs less to make than the other. But, all are the same in quality—*First Grade.*

Fit your ideas, fit your capacity need, fit your pocketbook—at headquarters, The Empire Factory.

The Empire Book Froo. Gives *facts* not claims, because we don't depend upon *one* style to make a sale. It is fair and impartial. Write for it today.

Empire Cream Separator Co.
Chicago, Ill.
Factory, Bloomfield, N. J. Frictionless Empire

FOR THIS

NEW LOW DOWN AMERICAN CREAM SEPARATOR

Guaranteed to skim closer than any separator in the world. Sold direct from the factory. We are the oldest exclusive manufacturers of hand separators in America. You save all agents', dealers' and even mail order house profits. We have the most liberal 30 DAYS' TRIAL, freight prepaid offer. Write for it today. Our new low down, waist high separator is the finest, highest quality machine on the market; no other separator compares with it in close skimming, ease of cleaning, easy running, simplicity, strength or quality. Our own (the manufacturer's) guarantee protects you on every AMERICAN machine. We can ship immediately. Write for our great offer and handsome free catalogue on our new waist high model. Address, Box 1058,

AMERICAN SEPARATOR CO. BAINBRIDGE, N. Y.

Elkhart Buggies
have been sold to the consumer
For Thirty-Six Years
May We Send You Our Large Catalogue?
Elkhart Carriage & Harness Mfg. Co.
Elkhart, Indiana

THICK, SWOLLEN GLANDS

that make a horse Wheeze, Roar, have Thick Wind, or Choke-down, can be removed with

ABSORBINE

or any Bunch or Swelling. No blister, no hair gone, and horse kept at work. $2.00 per bottle, delivered. Book 3 D free.

ABSORBINE, JR., for mankind, $1.00, delivered. Reduces Goitre, Tumors, Wens, Varicose Veins, Ulcers, Hydrocele, Varicocele. Book free. Made only by

W. F. YOUNG, P. D. F., 23 Temple St., Springfield, Mass.

1 MAN HORSE BALES 1 TON HOUR

On our wonderful new Daisy SELF-THREADING, self-feeding, one-horse hay press. It is the only ono on the market on which one man can do all the work. This first successful self-threading device—greatest time saver ever. Condenser and open bars on bale hopper increase capacity and prevent lurk catching. Five days' free trial. Write today for prices and circulars.

GEO ERTEL CO. QUINCY, ILL.

DAISY FLY KILLER placed anywhere, attracts and kills all flies. Neat, clean, ornamental, convenient, cheap. Lasts all season. Made of metal, cannot spill or tip over, will not soil or injure anything. Guaranteed effective. Of all dealers or sent prepaid for 20 cents.

HAROLD SOMERS
150 DeKalb Ave.
Brooklyn, N.Y.

Live Stock and Dairy

The Mare and Foal on the Farm

On some farms and under certain conditions it may be found profitable to make a practice of breeding mares to foal during the fall, but the average farmer will obtain more satisfactory results if he makes a practice of breeding his mares so that the colts will come when the grass is green and when fresh blood is rioting in the veins of all animal and vegetable life. This is the natural time for the mares to bring forth their young.

We all know that tender pasture-grass is an ideal food for young foals, especially when it is fed in connection with grain foods. The colt that comes during the fall must content itself with what dry forage it can find, and the effect upon its digestive system is far inferior to that of green grass. Then, again, the colt is better able to build up a strong and vigorous constitution and reach a healthy development when it has an abundance of the free air and sunshine of heaven to aid it to develop.

No matter how well we may feed and care for the colt during the winter, if he is kept confined in a stall his feet are sure to grow out of shape and proportion unless the most intelligent care is taken of them. The colt that is allowed to roam the pasture will in the natural way wear his feet and keep them somewhere near to the normal shape and condition, so that keeping the feet level and the toes of the proper length is a more simple process than it is during the cold weather, when he is kept in the stable.

Another important matter for us to consider is exercise, which is one of the essentials to healthy development. Watch the colts in a pasture during the summer and see them run and play. This is the way that Nature takes to build up strong and elastic sinews and muscles and strong and supple joints.

During the winter the amount of milk given by the mare is a rather uncertain quantity, especially when she is fed principally on grain and dry fodder. Of course the mare's milk may be supplemented with cow's milk, but here again we often introduce problems that are not always satisfactory. Many will argue that the modern horse is an artificial product and that it must be raised and cared for in an artificial manner; still the very best horses that the world has ever produced have been raised in what we might properly term the natural manner.

The question of working the mare during the time she is nursing a foal is a serious one, unless the man who is driving her understands his business. She can safely be worked from six to seven hours a day if well fed and worked moderately. Her rations should be made up of good, wholesome foods that are adapted to the production of milk. Oats and wheat bran make an excellent grain ration. The colt should never be allowed to follow the mare while she is working in the field.

The sooner the foal learns to eat, the better, and the more oats and wheat bran he will eat while sucking his dam, the better will be his growth and development. Wheat bran and oats are excellent foods to promote a rapid and healthy development of young colts. The gains made during colthood are the least expensive and will never be lost, while the growth that is lost by neglect in care and feeding is a something lost forever, that no amount of after care and feeding can bring back. The first two years fix the frame development of a horse that no subsequent feeding can materially improve, and the few months after the colt is born give it a start toward development that is absolutely essential if the best results are obtained.

Feed the mare the best milk-producing foods that can be obtained, and teach the colt to eat grain foods and grass at an early age, and "weaning-time" will be passed so easily that it may be regarded as a trifling incident.

Next comes the training of the colt, for while we are developing the colt's body we must not forget to develop in him habits of docility, usefulness and safety. The first lesson to teach a colt is that you are stronger than he is, and this lesson must be impressed upon him while he is very young. Next break him to the halter. Take him some dainty he likes when you go near him. Take time to fondle and pet him, but still teach him that you are his master. If the colt is handled in this manner there will be no trouble in training him when it is desired to harness him.

W. Milton Kelly.

Head of Pink—A Study in Percheron Character

Horse Notes

The pedigree is simply a certificate of character, and unless it shows a good character it is of no practical value.

The forcing process is not dangerous, provided the proper conditions of exercise and proper development are maintained.

Soundness is an essential feature in the make-up of a driving or riding horse when placed upon the market. A small blemish will not only lower the value of a horse, but will often prevent the sale entirely.

Wm. H. Underwood.

One Of The Greatest Of Creamery Companies On CREAM SEPARATORS

The Fairmont Creamery Co. and its President, J. H. Rushton, were pioneers and have ever been leaders in the butter-producing development of the Great West, and they are leaders today in the ever increasing expansion of farm separation and the centralized gathering of cream, with its upbuilding of dairying where conducted honestly and wisely.

OMAHA, NEB., April 23, 1909.

With nearly thirty years of creamery and dairy experience we have been familiar with the cream separator from practically the beginning of its use in the western states.

Our first experience was with the Power or Factory machines in our whole-milk stations, but since 1900 our experience has been with the Hand separator on the farm.

We look upon the Hand separator as the greatest invention of the age affecting the farmer and in promoting the dairy industry. It has enabled the farmer to save the great losses in butter-fat he was before sustaining; saved him over four cents a pound in the handling of it; left him the finest of skimmilk, and opened to him not only one but many markets.

During all these years we have had occasion to examine separators from a mechanical standpoint and keep in touch with their work. We have had occasion to know how they stood the wear and tear of actual use, as well as to know the efficiency of their skimming, and we have met the practical conditions of factory use on the one hand and farm use on the other.

The De Laval separator has always been the leader and never a follower in this great economical development. It was so with Factory machines and it has been so with Farm machines. The De Laval has always been well and honestly made and its merits well and honestly presented, and it has proved equal to every condition and requirement of separator use.

Our only present interest in separators lies in the importance to the creamery concern of its patrons buying a machine that will accomplish its work effectively and prove durable, and hence give lasting satisfaction, while capable of producing a heavy cream and of being easily and thoroughly cleaned and kept sanitary.

Ample capacity is also important in a separator, and a few dollars difference in first cost is a small consideration. The best of separators are now reasonable in price and are pretty certain to prove much the best and cheapest investment in the long run.

This is unquestionably the net result of separator experience generally and new buyers may wisely profit by it.

THE FAIRMONT CREAMERY CO.
J. H. Rushton, President.

Is the Fairmont Creamery Co.'s thirty years experience worth anything to YOU in the purchase of a cream separator? It would be strange reasoning to conclude otherwise.

THE DE LAVAL SEPARATOR CO.

42 E. MADISON STREET CHICAGO
1213 & 1215 FILBERT STREET PHILADELPHIA
DRUMM & SACRAMENTO STREETS SAN FRANCISCO

General Offices: 165 BROADWAY NEW YORK

173-177 WILLIAM STREET MONTREAL
14 & 16 PRINCESS STREET WINNIPEG
107 FIRST STREET PORTLAND, OREG.

SUBSCRIPTION PRICE

One Year (24 numbers) . . . . 35 cents
Four Years (96 numbers) $1.00
Canadian Subscriptions . { 1 Year, 60 cents / 4 Years, $2.00

Entered at the Post-Office at Springfield, Ohio, as Second-Class Mail Matter.

Subscriptions and all editorial letters should be sent to the offices at Springfield, Ohio, and letters for the Editor should be marked "Editor."

The date on the address label shows the time to which each subscriber has paid.

Subscribers receive this paper twice a month, which is twice as often as most other National farm journals are issued.

Silver, when sent through the mails, should be carefully wrapped in cloth or strong paper, so as not to wear a hole through the envelope.

When renewing your subscription, please say it is a renewal, and if possible send the label from a recent copy. If all our subscribers will do this a great deal of trouble will be avoided.

FARM AND FIRESIDE

PUBLISHED BY
THE CROWELL PUBLISHING COMPANY
SPRINGFIELD, OHIO
Branch Offices: 11 East 24th Street, New York City.
Tribune Building, Chicago, Ill.
Copyright, 1909, by The Crowell Publishing Company

ABOUT ADVERTISING

FARM AND FIRESIDE does not print advertisements generally known as "readers" in its editorial or news columns.

Mention FARM AND FIRESIDE when you write to our advertisers, and we guarantee you fair and square treatment.

Of course we do not undertake to adjust petty differences between subscribers and honest advertisers, but if any advertiser in this paper should defraud a subscriber, we stand ready to make good the loss incurred, provided we are notified within thirty days after the transaction.

FARM AND FIRESIDE is published on the 10th and 25th of each month. Copy for advertisements should be received twenty-five days in advance of publication date. $2.00 per agate line for both editions; $1.00 per agate line for the eastern or western edition singly. Eight words to the line, fourteen lines to the inch. Width of columns 2¼ inches, length of columns two hundred lines 5% discount for cash with order. Three lines is smallest space accepted.

Letters regarding advertising should be sent to the New York address.

Guard the Water-Rights

SERIOUS and timely warnings have been given to guard water-rights and preserve them for the future benefit of the people. With advancing prices for fuel now almost wholly under control of comparatively few interests, the value of water-power for use in the future is increasing rapidly year by year. Far-sighted corporations understand this, and here and there, all over the country, are busily engaged in getting possession of water privileges. Unless there is a general awakening of the public to the actual danger, another one of the great natural resources of the country may soon pass into the control of monopolistic corporations.

Within the past few years developments in electrical work have greatly lowered the cost of power transmission by wire. A cheap wire the size of a lead-pencil can now transmit as much electrical energy as an expensive inch copper wire would a few years ago.

This is only a hint of the great probabilities in the utilization of water-power in the near future, and a little reminder of the importance of guarding water-power privileges.

Separation of Brewery and Saloon

ONE of the most powerful forces on the "Dry" side of the local-option campaign is the brewers' method of running their business. Not satisfied with the profits of manufacturing and wholesaling their product, they have reached out after all the profits in the retail trade. In many communities the breweries now own and operate fully eighty per cent of the saloons. Whatever may be their nominal status, nearly all saloon-keepers are now, under the chattel-mortgage system, only agents or hirelings of the breweries, and are utterly subservient to their bosses. To all the ordinary evils resulting from the liquor traffic the brewers have added the evils usually incident to monopoly. This economic feature of the beer business is a boomerang on the brewers.

One state has enacted a law prohibiting breweries from owning and running saloons. Other states are considering the plan. Governor Hadley of Missouri recently put this phase of the liquor question in a nutshell. In a recent special message to the legislature, he said:

> "When the brewer, the distiller or the wholesaler of intoxicating liquors is permitted, directly or indirectly, to own, operate or control dram-shops, then there exists a necessary combine of power that results in the injury of the business itself and inevitably tends to pernicious and dangerous political activity and influence. The other evils incident to this condition are so many and so manifest that it is unnecessary for me to mention them here. It is, in my opinion, clearly advisable that another law should be passed which will enforce the complete separation of the brewery and the saloon, the wholesaler and the retailer."

Fortunately, under the laws of the land the liquor business stands separate and apart from every other business. By the courts, from the lowest to the highest, it has been regarded as a menace to the good order of society, and placed under police power and regulation. It is therefore properly subject to special legislation. Laws affecting every detail of the business, but which do not apply to any other business, have been declared sound and constitutional by the highest courts. Not even any property used in the business is exempt from indirect but ultimate confiscation. It is just as much contraband as a gambler's tools, which may be seized and destroyed without violation of the constitutional rights of property. Every one investing in the business must assume all risks, and do so at the peril of having his property indirectly but actually confiscated by the enactment and enforcement of state and federal laws regulating or abolishing the traffic in which he is engaged. It is, therefore, a very simple matter to draft legislation that will separate the brewery and the saloon without interfering with any kind of innocent business. All arguments of the "Wets" that sumptuary laws involve unjust confiscation of property are exceedingly flimsy.

Coöperative Warehouses

AT A recent meeting of the grain-growers' and cattle-growers' branch of the Farmers' Union at Springfield, Missouri, the plan of building coöperative warehouses was indorsed. This action by an important department of an organization representing some two million farmers will give a great impetus to the coöperative warehouse movement. Scattered through several states of the Middle West are now a few thousand farmers' elevators in successful operation.

The object is to avoid the extortion commonly practised by the middlemen and to sell the grain direct to millers and to exporters to foreign markets. It is not the object to "corner" grain for the purpose of increasing the price of bread to consumers, but to keep it out of the hands of middlemen and speculators who manipulate the markets against both producers and consumers. When in full operation throughout the grain-producing territory the plan will "warehouse" the grain and supply the regular daily demands for consumption from one harvest until the next.

The cost of financing the coöperative grain business—that is, the interest on the money invested in storing grain—will actually be much less than the cost of running the speculative grain markets of the country.

The Tariff-Revision Question

AT THE White House Conference of Governors in May, 1908, in the course of an eloquent address Governor Glenn of North Carolina said:

> "*Vox Dei* is calling for the preservation of the forests for humanity's sake, for health's sake; *vox populi* is calling for the prevention of this waste for manufacturing purposes, for electrical purposes, for commercial purposes, and *vox Dei* and *vox populi* shall and must be heard, or else we give fair warning to Congress that failing to listen to the demands of our people, as year after year we come urging its members to do their duty, we will arise in our might and select men who will listen, and give us the relief demanded."

Commenting in a witty and serious vein on this statement, Governor Folk of Missouri said:

> "Governor Glenn this morning spoke of a bill before Congress in reference to forestry and waterways. I want to indorse what Governor Glenn said. The Newlands Bill ought to pass Congress. He again spoke of *vox populi, vox Dei.* But there is a new voice in the land not contemplated by the Fathers of the Republic—*vox Cannoni.* And this last voice has often proved more powerful than *vox populi,* and it sometimes seems to think it is greater than *vox Dei.*"

With the addition of *vox Aldrichi* this description aptly applies to the present tariff situation in Congress. If there ever was a deliberate determination to defeat the will of the people for an honest, thorough revision of the tariff, it is certainly manifest now.

Republicans and Democrats alike have ignored the declared principles of their respective parties on this subject. The basis of a protective-tariff system as set forth repeatedly by Republican platforms is that duties on imports shall represent the difference between the cost of production at home and the cost abroad. But the Cannons and Aldriches who control the making of the new tariff bill brazenly defy both their party and the people of the country generally. On the other hand, we have the spectacle of leading Democrat senators boldly advocating high duties on certain articles—timber, lumber, wood-pulp, etc., for instance—when the latest Democratic platform contains a specific plank demanding that they be admitted free of duty. In fact, there has been an utter breaking down of party lines over the question, and fortunately, too, in one respect. It will be so much easier now for all the voters to act with some independence when the time comes to elect the next Congress. The course of this Congress has left but one course of action open to the people of this country, whose interests have been disregarded for the benefit of a privileged few. We must do as Governor Glenn said, "Arise in our might and select men who will listen, and give us the relief demanded."

Back Talk to Lewis

Letters From Readers

EDITOR OF FARM AND FIRESIDE:—

"Talk Back" to Mr. Lewis! Indeed we mean to "Back His Talk." Just such papers and writers are the farmers' greatest need. Politicians say "Keep politics off the farm," knowing thereby lies their power. We want more such literature to bring about a just representation.

Michigan. NATHAN CASE.

EDITOR OF FARM AND FIRESIDE:—

By all means let Mr. Lewis continue with his political talk. A good many farmers need their eyes opened, and the only way to do it is to let them read the truth sometimes. A great majority of the farmers want the following: Parcels post, security for bank deposits, tariff taken off of trust-made articles, and election of United States senators by direct vote of the people. But how are they going to get these things unless they vote for representatives who favor them?

Indiana. J. C. TERRILL.

EDITOR OF FARM AND FIRESIDE:—

Please allow me to express, along with others, my appreciation of your paper. It is by far the best farm paper I have ever read at any price, and the two very best pages are the editorial page and that used by Mr. Lewis. I do not appreciate his stories, but his scraps of unwritten history, his biographical sketches and his political discussions are incomparable. Do not stop them on any account. He seems fearless, honest and truthful, and his information and advice to farmers are valuable.

Missouri. J. W. JONES.

EDITOR OF FARM AND FIRESIDE:—

I have been a silent reader of your paper for some time. It is the best all-round paper I have read. What puzzles me most is these articles asking you to discontinue the political page by Mr. Alfred Henry Lewis. What these men mean is more than I can tell. How can we be expected to perform our duties as citizens without a knowledge of the affairs of our government? Every intelligent person can plainly see that our federal government is rapidly falling into the hands of Predatory Wealth. It has been recorded in the history of nations that whenever a country falls into the hands of Predatory Wealth, that country cannot long remain a Republic and its government cannot long remain a people's government. I cannot too strongly urge upon you the importance of continuing the page of Politics. Let there be light. Let Mr. Lewis raise the curtain as high as possible, and display to the American people the system and workings of our government. Long live Mr. Lewis.

Iowa. HERMAN W. LAST.

EDITOR OF FARM AND FIRESIDE:—

I am a subscriber to your valuable paper, and I find that it is worth several dollars to me in facts and information in a year. I think the farmer who does not read farm papers makes a great mistake. I have been greatly interested in the letters on politics written by Mr. Lewis. I have not failed to read an article, and while I do not agree with Mr. Lewis in all his conclusions, I believe he is in the main correct. There is no doubt in my mind that there is a lot of extravagance and incompetency among government officials and affairs which should be exposed and aired, and Mr. Lewis' strong, forcible style proves him to be the man of the hour. He is certainly independent, fearless, unique, and his logic is of an inimitable order. By all means continue to publish the Lewis letters. I am sure they're needed and I know that they are interesting.

We all live in the same country, under the same government, and if there is something or anything wrong in the affairs of government which is the people's affair, let us know it. Mr. Lewis is astute enough to see the wrongs in national affairs, and he has the ability, will and force and pencil to paint it out, and give his opinions in regard to the same, without the shadow of a fear.

Tennessee. J. R. HYATT.

In the Public Eye

By Alfred Henry Lewis

If you don't agree with Mr. Lewis, "talk back" to him, confining your reply to two hundred words. We shall hope to publish some of these replies from time to time.—THE EDITOR.

THIS AFTERNOON I SAT in the Senate gallery, and listened to "tariff." If one is to be guided by their oratory, they legislate not for the nation, but for neighborhoods in the Senate. Also, they help one understand what General Hancock meant when he said that "Tariff is a local issue" and was laughed at when he wasn't denounced for saying it.

And yet why rail? Or if one must rail, why not rail in a right direction? There is ever the murmur of criticism to fill the querulous air against the politicians and the parties. The javelins of common censure are leveled unremittingly at the two, albeit, when the subject has a last elucidation, there is to be but scanty sympathy for the complainants. Granted each violence of office, or crime of policy, that has been charged against government since government began, with the latest syllable the public is the one belaborable therefor. It isn't for kings or kaisers or parliaments or congresses or presidents, it is for those peoples who permit them, and in whose names and under whose hands they act their sundry villainies, that rods should soak in pickle. The whole people, or even a majority of the whole, can proffer no demand which the Prince will decline. He will accede, not for his honesty, but for his fear. The royal motive, however, comes to be of light concern; it is the deed which counts. And the deed will as unfailingly respond to a united public as any shallop to any gale of wind.

* * *

IT WAS IN A DAY WHEN THE WELSH were not so wisely capable as they are now. Weak they were compared with that monarch with whom they dealt, for he was bold and crafty as against their untaught ignorance. Yet the Welsh had one fixed thought in their heads; they would be ruled by none save one native-born of Wales. And thereupon the Welsh public—not a mighty host—with its uncombed hair in its eyes, its rough attire, its savage feet shod with untanned hides, confronted Edward, and shouted, "A native Prince!" Also, they (the Welsh) swore by their oaks that war they would until they had their way.

Edward was wroth, for the blood of the Plantagenets was not the coolest strain in England. But Edward confronted a whole people, and was afraid. He piled his arms, and yielded to the wild Welsh when they would not yield to him.

A cry—a baby's cry—was heard; and the King came into the banquet-hall with the infant in his arms. Scowling on his Welshmen as they made a curious crowd about him, he held his puling burden high, so all might see, and shouted in bad Erse, *"Eich dyn!"** and so gave the Welsh a Prince, and the Prince a motto, with one and the same breath.

And as it was in the day of Edward and his Welshmen, so is it now with you and your officers of state. The public may have aught that it demands. If wrong of party or crime of place exists, it is sure proof that, whatever hypocrisy may say aloud or put in print on that subject, the public privily consents to, nay, fosters and flatters, its existence.

* * *

ALL THIS, BOTH THOUGHT AND PHRASE, I've said and resaid many times. There is stern word to be said to publics concerning their treasons to themselves. It was upon a not-over-distant day when a critic (Governor Altgeld of Illinois), who was also an office-holder, arose and made unto the world a harangue. It was in its nature a criticism of politics and politicians, and the critic bent himself to inform a bevy of callow students about to fly from that nest of learning, the university, and spake veraciously as follows:

"Being an office-holder myself, I may be pardoned for saying that most of the men who are holding the offices and wielding authority will be forgotten before the grass has had time to grow over them; for they are not the great captains, they are not the leaders of our progress and of our civilization. Their wisdom is limited to the weather-vanes of public buildings. They never give the order for advance on any great question. They wait to be commanded to move, and then hesitate until assured that it is the voice of the majority calling to them. They wait until the leaders of thought have captured the stronghold of a wrong, and then they try to plant their flag over the ramparts that were stormed by others. As a rule they are moral cowards, following the music-wagon of their time, and holding the penny of immediate advantage so close to their eyes as to shut out the sunlight of eternal principle."

There your critic gives you a true etching of the average office-holder. He holds office not for its duties, but for its perquisites.

* * *

IN THIS DAY, WHEN WE HAVE PLENTY and misuse it, when it is an era of abuse rather than of want, a critic should be more thought of than a projector. 'Tis a fat hour, rife of good things, opulent of the possible, heavy with conditions of knee-deep richness; and your critic, to show a wrong, to indict an evil and pillory injustice, to object and carp and wield a lash of biting sarcasm, is of excellent importance. We of America don't need a William to conquer an empire, for we have an empire. Our time calls for no Charlemagne to extend an empire, for we have enough. Even a Washington is no longer indispensable in our destinies, for our Revolution is secure. What we could use is a brigade of critics to act as whippers-in, to keep our hounds of office at their duty, and see that the honest hunt of government sweeps ever on.

It is good that you re-read the words of the critic printed before. You are a voter—a free citizen of this free land of ours. And while the critic draws a picture of your officers, he at the same time holds a mirror up to you. "The representative represents," and he in office is the reflex of you who put him there. Your officer is as natural to his constituents as your apple to its tree, and in his rottenness or his sound sweetness tells the story of his origin. If your office-holder is the creature of venal mud and mire, it is because of your choice, connivance, construction. He is your fruit, your apple, and you must own him. He wouldn't be there, couldn't stay there, save for you. You want him, and there he is. You want him corrupt, and behold him a nest of foulness.

* * *

TRULY, THERE WILL COME A BROOD of hot, resentful turkey-heads to rail at this. They will heatedly disclaim responsibility for your office-holder. It will avail them naught. The theory of this government is perfect for its time; it is the practice that breaks down. And the practice of government begins with the citizen—with you who read this and contradict it. Who would there be to withstand you if you struck in for reform and honesty in place? Your hands are not tied, your voice is not stifled, only as your own mean hopes or fears are found to bind and gag them.

The path lies plain to the feet of every voter. It runs open to the expression of his views until it touches the courts, the Congress and the White House. There are neither guards to detain nor walls to interrupt. From the highest to the lowest, in primary and convention and at the polls, aye! in mass-meeting and by petition afterward, your voter—you who read—may have word and weight in the selection and the ordering of every tax-eater on the lists.

When a man can do a thing, and doesn't do it, it's because he doesn't want to do it. If you didn't want a rogue in office, there would be none. If a monstrous policy offended you, it would disappear. Your officials, whatever they are, may at least claim you as their source. If they are black, it's because you are black; and there's not one word which the critic said of them he couldn't have said of you. As I've printed before, a people—and that means you—get invariably a government to wed with their deserts. If it is a tyranny, a monarchy, an aristocracy, on oligarchy or a republic, you may be sure it fits neatly and nearly the merits or demerits of the folk over whom it possesses ward and sway. Be pure, and your government will be pure; be brave, it will have courage; be free, and freedom will abide in your high places and descend therefrom to the rabble least among you. Be dogs, and you will have dog-government—a kennel, a collar, a bone to gnaw, a chain to clank.

* * *

IT IS BY NO MEANS SURE that a dog-government isn't that which best suits a huge fraction of our citizens, who—if asked the question—would describe themselves as folk high-hearted and noble, and bold, free gentlemen withal. There is ever a moiety who fear to be free. They don't feel safe unless they feel owned. They have—to pursue a simile suggested above—vastly the dog-nature. They need a man to form on and draw strength from, and to whom their trained, tamed natures may refer for direction and defense. Three fourths of the world run about hunting a master—seeking to be owned. They haven't the courage to dwell in stark manhood on life's fearless hills. Such folk can't be free. They are born subjects.

Did you ever observe a lost dog—how he skulks and yelps, and with craven tail coiled between his abject legs, flies from a shadow? That's all because the dog is lost. He feels the desolation of the masterless—the horror of the cur unowned. To-morrow you may meet him with one who has consented to accept his title. And he will prove a bold, insolent dog, and battle to the death for black or for white, just as his master orders.

* * *

REFORMS MUST EVER BEGIN with the people. Your officer of state will seldom fail to be as much the illmonger as you concede him license. The demand for better things must come from the public. It has been thus through history. Whenever an ill condition was to be fought and conquered, the torch of truth and protest had first to be kindled at some obscure, lowly hearth. Once lighted and burning, it passed on and on, from hand to hand, until it traveled from low to high, and that which started with the peasant was at last seized by the prince.

Whatever one calls his party politics, the name commonly means no more than just a screen for his self-interest. Doubtless there is a sordid logic which goes with money, and folk consult their pocketbooks when deciding upon their public duty. If a man be killing pigs, or building boats, or forging armor-plates, or loaning money, those public conditions, whether of war, or peace, or murder, or pillage, or liberty dead, or law defied, or constitution invaded and set at naught, which flow a profit to his pocket are to him right, and those he will sustain.

* * *

AND WHAT IS TRUE OF THE HIGH is true of the middle and the low; what is true of the rich is true also of the poor. Each jostles the other as he crowds toward that mess of pottage for which his birthright is for sale.

That critic aforesaid has given a true picture of those who sit in your high places. He says they are thick, slow, timid, greedy, dishonest. And you don't like it? Then make your stand. Those officers will do anything, be anything, you say. Do you want your taxes less? They will lower them. Are you tired of tariff? They will reduce it to the flat levels of free trade. Those pliant folk of place will put the ship of state about; they will sail to any compass-point, or they will set a staysail and "heave to," exactly as you—the public—demand.

You—the public—are in fault for whatever goes forward in office. You have the whole tangle in your lap, to mar or mend it as you please.

No; there should be no high belief of any instant, lightning-like mutations for the better. Good comes slowly and seems shod with lead. BUT IT COMES.

*The phrase means in Erse "Here's the man." The motto has been done over into German upon the principle of *idem sonans* so as to mean "I serve." This is an error. A. H. L.

Back Talk to Lewis

EDITOR OF FARM AND FIRESIDE:—

If you are not paying Mr. Lewis a good salary, please do so. Keep him on the editorial staff, anyway. If you think you cannot afford it, call on us for a small assessment to help out, as we consider Mr. Lewis' political articles worth more than the price of the paper. He undoubtedly sees very clearly into the rotten political system. With such men as Platt of the American Express Company and Depew of the New York Central Railroad, wouldn't it make a mule laugh to think that the common herd will get a decent parcels-post with the majority of the Senate having the same interests and views as Platt and Depew? We of Colorado do not forget that we also have two noble representatives (of the interests) in the Senate, who will see that laws are enacted and enforced to catch the farmer coming and going, compelling him to sell on a low market and buy in a high one through the manufacturers' tariff organization. Is it not time for the farmers also to organize and send a few longhorns to the Senate, and do a little mixed fighting with Platt's Express Company and the high-tariff boosters?

Colorado. LEVI BONNER.

JESSAMINE

By L. M. Montgomery

When the vegetable-man knocked, Jessamine went to the door wearily. She felt quite well acquainted with him. He had been coming all the spring, and his cheery greeting always left a pleasant afterglow behind him. But it was not the vegetable-man, after all—at least, not the right one. This one was considerably younger. He was tall and sunburned, with a ruddy, smiling face, and keen, pleasant blue eyes; and he had a spray of honeysuckle pinned on his coat.

"Want any garden-stuff this morning?"

Jessamine shook her head. "We always get ours from Mr. Bell. This is his day to come."

"Well, I guess you won't see Mr. Bell for a spell. He fell off a loft out at his place yesterday and broke his leg. I'm his nephew, and I'm going to fill his place till he gets 'round again."

"Oh, I'm so sorry—for Mr. Bell, I mean. Have you any green peas?"

"Yes, heaps of them. I'll bring them in. Anything else?"

"Not to-day," said Jessamine, with a wistful glance at the honeysuckle.

Mr. Bell, junior, saw it. In an instant the honeysuckle was unpinned and handed to her. "If you like posies, you're welcome to this. I guess you're fond of flowers," he added, as he noted the flash of delight that passed over her pale face.

"Yes, indeed; they put me so in mind of home—of the country. Oh, how sweet this is!"

"You're country-bred, then? Been in the city long?"

"Since last fall. I was born and brought up in the country. I wish I was back. I can't get over being homesick. This honeysuckle seems to bring it right back. We had honeysuckles around our porch at home."

"You don't like the city, then?"

"Oh, no. I sometimes feel as if I should smother here. I shall never feel at home, I am afraid."

"Where did you live before you came here?"

"Up at Middleton. It was an old-fashioned place, but so pretty—our house was covered with vines, and there were big trees all about it, and great green fields beyond. But I don't know what makes me tell you this. I forgot I was talking to a stranger."

"Pretty little woman," soliloquized Andrew Bell, as he drove away. "She doesn't look happy, though. I suppose she's married some city chap and has to live in town. I guess it don't agree with her. Her eyes had a real hungry look in them over that honeysuckle. She seemed near about crying when she talked of the country."

Jessamine felt more like crying than ever when she went back to her work. Her head ached and she was very tired. The tiny kitchen was hot and stifling. How she longed for the great, roomy kitchen in her old home, with its spotless floors and floods of sunshine streaming in through the maples outside. There was room to live and breathe there; and from the door one looked out over green wind-rippled meadows, under a glorious arch of pure blue sky, away to the purple hills in the distance.

Jessamine Stacy had always lived in the country. When her sister died and the old home had to go, Jessamine could only accept the shelter offered by her brother, John Stacy, who did business in the city.

Of her stylish sister-in-law Jessamine was absolutely in awe. At first Mrs. John was by no means pleased at the necessity of taking a country sister into her family circle. But one day, when the servant-girl took a tantrum and left, Mrs. John found it very convenient to have in the house a person who could step into Eliza's place as promptly and efficiently as Jessamine could.

Indeed, she found it so convenient that Eliza never had a successor. Jessamine found herself in the position of maid of all work and kitchen drudge for board and clothes.

She never complained, but she grew thinner and paler as the winter went by. She had worked as hard on the farm, but it was the close confinement and weary routine that told on her. Mrs. John was exacting and querulous. John was absorbed in his business worries and had no time to waste on his sister. Now, when the summer had come, her homesickness was almost unbearable.

The next day Mr. Bell came he handed her a big bunch of sweetbrier roses.

"Here you are," he said heartily. "I took the liberty to bring you these to-day, seeing you're so fond of posies. The country roads are pink with them now. Why don't you get your husband to bring you out for a drive some day? You'd be as welcome as a lark at my farm."

"I will when he comes along, but I haven't seen him yet."

Mr. Bell gave a prolonged whistle. "Excuse me. I thought you were Mrs. Something-or-other for sure. Aren't you mistress here?"

"Oh, no. My brother's wife is the mistress here. I'm only Jessamine."

She laughed again. She was holding the roses against her face, and her eyes sparkled over them roguishly. The vegetable-man looked at her admiringly.

"You're a country rose yourself, miss, and you ought to be blooming out in the fields, instead of wilting in here."

"I wish I was. Thank you so much for the roses, Mr.—Mr.—"

"Bell—Andrew Bell, that's my name. I live out at Pine Pastures. We're all Bells out there—can't throw a stone without hitting one. Glad you like the roses."

After that the vegetable-man brought Jessamine a bouquet every trip. Now it was a big bunch of field-daisies or golden buttercups, now a green glory of spicy ferns, now a cluster of old-fashioned garden flowers.

"They keep life in me," Jessamine told him.

They were great friends by this time. True, she knew little about him, but she felt instinctively that he was manly and kind-hearted.

One day, when he came, Jessamine met him almost gleefully. "No, nothing to-day. There is no dinner to cook."

"You don't say. Where are the folks?"

"Gone on an excursion. They won't be back until to-night."

"They won't? Well, I'll tell you what to do. You get ready, and when I'm through my rounds we'll go for a drive up the country."

"Oh, Mr. Bell! But won't it be too much bother for you?"

"Well, I reckon not! You want an excursion as well as other folks, and you shall have it."

"Oh, thank you so much. Yes, I'll be ready. You don't know how much it means to me."

"Poor little creature," said Mr. Bell, as he drove away. "It's downright cruelty, that's what it is, to keep her penned up like that. You might as well coop up a lark in a hen-house and expect it to thrive and sing. I'd like to give that brother of hers a piece of my mind."

When he lifted her up to the high seat of his express-wagon that afternoon he said, "Now, I want you to do something. Just shut your eyes and don't open them again until I tell you to."

Jessamine laughed and obeyed. Finally she heard him say, "Look."

Jessamine opened her eyes with a little cry. They were on a remote country road, cool and dim and quiet, in the very heart of the beech woods. Long banners of light fell athwart the gray bolls. Along the roadsides grew sheets of feathery ferns. Above, the sky was gloriously blue. The air was sweet with the wild woodsy smell of the forest.

Jessamine lifted and clasped her hands in rapture. "Oh, how lovely!"

"Do you know where we're going?" said Mr. Bell delightedly. "Out to my farm at Pine Pastures. My aunt keeps house for me, and she'll be real glad to see you. You're just going to have a real good time this afternoon."

They had a delightful drive to begin with, and presently Mr. Bell turned into a wide lane.

"This is Cloverside Farm. I'm proud of it, I'll admit. There isn't a finer place in the county. What do you think of it?"

"Oh, it is lovely—it is like home. Look at those great fields. I'd like to go and lie down in that clover."

Mr. Bell lifted her from the wagon and marched her up a flowery garden path. "You shall do it, and everything else you want to. Here, Aunt, this is the young lady I spoke of. Make her at home while I tend to the horses."

Miss Bell was a pleasant-faced woman with silver hair and kind blue eyes. She took Jessamine's hand in a friendly fashion.

"Come in, dear. You're welcome as a June rose."

When Mr. Bell returned, he found Jessamine standing on the porch with her hands full of honeysuckle and her cheeks pink with excitement.

"I declare, you've got roses already," he exclaimed. "If they'd only stay now, and not bleach out again! What's first now?"

"Oh, I don't know. There are so many things I want to do. Those flowers in the garden are calling me—and I want to go down to that hollow and pick

[CONCLUDED ON PAGE 15]

"When Mr. Bell returned, he found Jessamine standing on the porch with her hands full of honeysuckle"

THAT Cupid, that merry, mischievous little god of Love, has been doing an uncommon amount of visiting of late among our FARM AND FIRESIDE girls is very apparent. The big pile of letters before me all convey this bit of news, though I confess in the most incidental and ingenuous of ways. However, it is easy enough to read between the lines and see that Cupid has been making many of our girls just the happiest girls in the whole, wide world.

And there seems no end to the questions these girls are asking about wedding-invitations, about weddings at home and weddings at church, about refreshments for weddings, about the proper bouquet for the bride, about flowers for decorating the rooms, and of course about the all-important trousseau.

Surely it is only natural that every girl wants to look her prettiest on her wedding-day. But to look her most attractive does not necessarily mean that her wedding-gown must be an elaborate and expensive dress. Just the joy in her own heart and the happy light in her eyes tend to make any young bride fair to look upon.

The All-Important Wedding-Gown

IF SHE is planning a quiet home wedding, with the relatives and just a few friends as the guests, a white gown is the preference for the wedding-dress. It is not at all necessary to have it of white satin. White crêpe de chine, which is much less expensive, will answer the purpose just as well. Or white organdie or sheer white lawn. In design, the princess is the vogue at present, using some pretty, fine lace for the trimming. With this gown, white slippers, white stockings and white gloves should be worn. The gown should be made high-neck, with perhaps a lace yoke.

Tulle makes a very becoming wedding-veil and answers the purpose quite as well as a lace veil. Arrange the veil in the way it is most becoming to yourself. A pretty idea, if it happens to suit the arrangement of your hair, is a coronet of flowers. Artificial orange-blossoms are quite the proper thing, with the veil draped from the back of the coronet. Do not have the veil short; a long veil is much more graceful. In arranging it, be sure that there is very little fullness at the head; have what fullness there is held in place by hand-run tucks.

The Bride's Going-Away Dress

IN MANY instances the girl who is about to become a bride finds it best to be married in her going-away dress. When this is the case, she wants to be sure to plan this costume most carefully, particularly as to the little details of her costume. The very new idea for a dress of this sort just now is a princess dress with a coat to match. The princess should be cut out low at the neck, so that it can be worn with a guimpe, and the sleeves of the guimpe may show only below the elbow, or the dress itself may have merely a short cap sleeve and the sleeve of the guimpe showing from there down to the wrist. For a going-away costume made in this style, shantung in a rough weave, pongee in the new cotele weave which shows a decided rib, mohair or Panama cloth are all good materials to use. The coat should reach to the knees and be semi-fitting rather than tight-fitting.

Do not use a decided contrasting color for the cuffs and collar. Another shade of the same color is good style, and braiding in the same shade as the material gives an attractive little touch. A tan straw hat trimmed with ribbon in the same shade as the dress makes a smart-looking hat to complete such a costume. If the dress is of pongee, for instance, in one of the pretty, brilliant shades of blue, then have a tan hat on the yellowish tinge, and trim it with a big bow of blue ribbon, either in the form of a large rosette or a bow with many outstanding loops. Large straw ornaments, which look much as if they were big hatpins, would give a smart look to a hat trimmed in this way. If pongee or shantung in the natural color is selected for the going-away dress, a hat in the same shade of straw, but trimmed with black ribbon or black wings, would be extremely stylish.

The girl who is planning to take quite a long wedding-trip will need, if she can possibly afford it, not only a going-away dress such as I have just described, but some sort of durable traveling-dress in coat-and-skirt style. This is, of course, if she is to be married in her going-away costume. Either a light-weight cheviot or serge, say in navy blue or dark gray, would be serviceable, and such a suit would save the costume in which she was married, so that it would answer later on for a church and calling dress.

Don't Have Too Large a Trousseau

IN THESE days, when Fashion is so continually changing, I would not advise any girl to buy many gowns for her trousseau. She will need a pretty silk dress, either a foulard or a messaline, and it would be well to have the waist made so that she can wear it cut low at the neck for a real evening dress or so that it can be worn with a guimpe. Old rose is a good shade for such a silk dress, as it is sure to be fashionable for a long time to come, and a soft grayish blue is also a staple color.

Of course, no trousseau is complete without many shirt-waists. They keep right on being a necessity, no matter how great the vogue of the one-piece dress. The girl who is clever with her needle should have in her trousseau some hand-made underwear and one or two hand-made blouses if she possibly has the time to make them.

If she feels that a one-piece dress is not becoming to her figure when she is planning her going-away costume, then she wants to have a coat-and-skirt suit, with a waist of chiffon cloth or net exactly the same shade as her suit. A shirt-waist dress or two are useful additions to the trousseau of the girl who is to be married this summer. One can be in the form of a coat-dress, which is a princess buttoned straight up the front, and either linen or rep are good materials to use. And the other a shirt-waist and separate skirt, with some plaits introduced in the skirt, either as an inset in the front panel or at the sides.

If it is impossible to buy more than one separate coat, it is better to have a long coat of cravenette cloth, light in weight, than a more fancy coat of silk or pongee. The cravenette coat not only serves its original purpose as a raincoat, but if it is trimmed attractively it will not make a bad substitute for an evening or traveling coat when occasion requires one.

Decorations and Suggestions for the Color-Scheme

IN REGARD to flowers for a quiet home wedding, make the rooms look as attractive as possible, using flowers in pots rather than flowers arranged in any formal way. For instance, do not bank the mantelpiece with flowers. It is in much better taste to simply put upon the mantel a bowl of flowers, and then to arrange a few palms, if it is possible to get them, and potted flowers about the part of the room where the ceremony is to be performed. Cut flowers in vases or bowls look much prettier than a bell of flowers, for instance, or a horseshoe of flowers suspended from the chandelier. Wild flowers are also charming for decorative purposes, especially daisies. Daisies also make a very pretty bridal bouquet.

The girl who is planning to have a church wedding with bridesmaids and ushers should keep the color-scheme of her wedding the same all the way through. For instance, if pink happens to be her favorite color, her bridesmaids may have dresses of pink lawn trimmed with white lace, and either wear short tulle veils of pink made in the form of a large Alsatian bow, with the ends hanging down at the back, or white hats trimmed with pink flowers. Pink sweet-peas are very pretty for this purpose, and then their bouquets could be of pink and white sweet-peas, while the bride could carry white sweet-peas.

If the bridesmaids' dresses are pink, then the room or rooms at home where the reception is held, and the wedding-breakfast or, buffet-lunch served should have the same pink flowers to help them look festive and attractive—pink sweet-peas or roses, with some green ferns or palms here and there. Pink should be introduced in one way or the other in the decoration of the table if a wedding-breakfast is to be served, or some way in the dishes if it is to be just a simple buffet-lunch. If the wedding is in strawberry season, for instance, strawberry ice-cream or strawberry ice should be served, and little cakes with pink frosting.

What to Serve at the Wedding-Breakfast

NOW IN regard to the refreshments. The menu nowadays is really a matter of personal choice and depends chiefly on the amount of money one can afford to spend. A simple wedding-breakfast, where the guests are seated, might consist of bouillon in cups, chicken salad and different kinds of sandwiches, preferably bread and butter, cream-cheese and lettuce. Coffee and ice-cream, served with fancy cakes, and the wedding-cake, of course, should be on the table, and the bride should cut it. The buffet-lunch, which is served to the guests standing, may consist either of merely ice-cream and cake, or chicken croquettes, sandwiches and coffee, with perhaps lemonade or a fruit-punch added.

Correct Form for the Wedding-Invitation

MANY girls have written to FARM AND FIRESIDE, asking whether a printed wedding-invitation was correct form. In answer, let me say emphatically, "No." The correct wedding-invitation should be engraved, but if the wedding is to be a very quiet and a very informal affair, it is perfectly good form to have it written, but not printed. The proper form for the engraved invitation is as follows:

Mr. and Mrs. Edward Wilson
request the honor of
Mr. and Mrs. Brown's (this is written)
presence at the marriage of their daughter
Florence
to
Mr. James Richard Lawrence
on Wednesday, June the Sixteenth,
at the First Congregational Church
Utica, New York.

Or, if the wedding is not to be in church, the house address is given.

The announcement-card should read:

Mr. and Mrs. Edward Wilson
announce the marriage of their daughter
Florence
to
Mr. James Richard Lawrence
on Wednesday, June the Sixteenth,
Nineteen Hundred and Nine,
Utica, New York.
At home, after July 1st,
186 North Street.

If the bride and groom are not to live in the same place where they were married, the announcement must of course have the full address—the number, the street and the name of the city—upon it. The announcement-cards should be mailed so that they are received the day after the wedding.

If the bride-to-be has a stepfather, then the invitations should read as follows:

Mr. and Mrs. Edward Wilson
request the honor of
Mr. and Mrs. Brown's (this is written)
presence at the marriage of Mrs. Wilson's daughter
Florence Wright
to
Mr. James Richard Lawrence
on Wednesday, June the Sixteenth,
at the First Congregational Church
Utica, New York.

The bride should be prompt in acknowledging her gifts. A graceful note of thanks should be sent as soon as the gift is received, if possible.

GRACE MARGARET GOULD.

Jessamine

[CONTINUED FROM PAGE 14]

buttercups—and I want to stay right here and look at things."

Mr. Bell laughed. "Come with me to the pasture and see my Jersey calves. They're something worth seeing. Come, Aunt. This way, Miss Stacy."

He led the way down the lane, the two women following together. Jessamine thought she must be in a pleasant dream. The whole afternoon was a feast of delight to her starved heart. When sunset came she sat down, tired out, but radiant, on the porch steps. Her hat had slipped back and her hair was curling around her face. Her dark eyes were aglow; the roses still bloomed in her cheeks.

Mr. Bell looked at her admiringly. "If a man could see that pretty sight every night!" he thought. "And, Great Scott, why can't he? What's to prevent, I'd like to know?"

When the moon rose, Mr. Bell brought his team around and they drove back through the clear night, past the wonderful stillness of the great beech woods and the wide fields. The farmer looked sidewise at his companion.

"The little thing wants to be petted and looked after," he thought. "She's just pining away for home and love. And why can't she have it? She's dying by inches in that hole back in town."

Jessamine, quite unsuspecting the farmer's meditations, was living over again in fancy the joys of the afternoon—the ramble in the pasture, the drink of water from the spring under the hillside pines, the bountiful, old-fashioned country supper in the vine-shaded dining-room, the cup of new milk in the dairy at sunset, and all the glory of skies and meadows and trees. How could she go back to her cage again?

The next week Mr. Bell, senior, resumed his visits, and the young farmer came no more to the side door of No. 49. Jessamine missed him greatly. Mr. Bell, senior, never brought her clover or honeysuckle.

But one day his nephew suddenly reappeared. Jessamine opened the door for him, and her face lighted up, but Mr. Bell saw that she had been crying.

"Did you think I had forgotten you?" he asked. "Not a bit of it. Harvest was on and I couldn't get clear before. I've come to ask you when you intend to take another drive to Cloverside Farm. What have you been up to? You look as if you'd been working too hard."

"I—I—haven't felt very well. I'm glad you came to-day, Mr. Bell. Perhaps I shall not see you again, and I wanted to say good-by and thank you for all your kindness."

"Good-by? Why, where are you going?"

"My brother went West a week ago," faltered Jessamine. She could not bring herself to tell the clear-eyed farmer that John Stacy had failed and had been obliged to start for the West without saying good-by to his creditors. "His wife and I—are going, too—next week."

"Oh, Jessamine," exclaimed Mr. Bell in despair, "don't go—you mustn't. I want you at Cloverside Farm. I came to-day on purpose to ask you. I love you and I'll make you happy if you'll marry me. What do you say, Jessamine?"

Jessamine, by way of answer, sat down on the nearest chair and began to cry.

"Oh, don't," said the wooer, in distress. "I didn't want to make you feel bad. If you don't like the idea, I won't mention it again."

"Oh, it isn't that—but I—I thought nobody cared what became of me. You are so kind—I'm afraid I'd only be a bother to you—"

"I'll risk that. You shall have a happy home, little girl. Will you come to it?"

"Ye-e-e-s." It was very indistinct and faltering, but Mr. Bell heard it and considered it a most eloquent answer.

Mrs. John fumed and sulked and chose to consider herself hoodwinked and injured. But Mr. Bell was a resolute man, and a few days later he came for the last time to No. 49 and took his bride away with him.

As they drove through the beech woods he put his arm tenderly around the shy, smiling little woman beside him, and said, "You'll never be sorry for this, my dear."

And she never was.

Example

BY EUGENE C. DOLSON

Each must some other's influence still,
Whate'er his life work be;
And lessons ever, good or ill,
We teach unconsciously.

The Stumbling-Block

"YES," said the old peer, "my son is willing to stand for Parliament. Unfortunately," he added, after a slight pause, "Parliament does not reciprocate."
—Christian Register.

OVER THE FENCE
Neighbor Says Something

The front-yard fence is a famous council place on pleasant days. Maybe to chat with some one along the street, or for friendly gossip with next-door neighbor. Sometimes it is only small talk, but other times neighbor has something really good to offer.

An old resident of Baird, Texas, got some mighty good advice this way once. He says:

"Drinking coffee left me nearly dead with dyspepsia, kidney disease and bowel trouble, with constant pains in my stomach, back and side, and so weak I could scarcely walk.

"One day I was chatting with one of my neighbors about my trouble and told her I believed coffee hurt me. Neighbor said she knew lots of people to whom coffee was poison, and she pleaded with me to quit it and give Postum a trial. I did not take her advice right away, but tried a change of climate, which did not do me any good. Then I dropped coffee and took up Postum.

"My improvement began immediately and I got better every day I used Postum.

"My bowels became regular and in two weeks all my pains were gone. Now I am well and strong and can eat anything I want to without distress. All of this is due to my having quit coffee, and to the use of Postum regularly.

"My son, who was troubled with indigestion, thought that if Postum helped me so, it might help him. It did, too, and he is now well and strong again.

"We like Postum as well as we ever liked the coffee, and use it altogether in my family in place of coffee, and all keep well." "There's a Reason." Read "The Road to Wellville," in pkgs.

Ever read the above letter? A new one appears from time to time. They are genuine, true, and full of human interest.

"I cannot sing ye olde songs, I do not know ye wordes."

How many times have you wanted to join with others in singing our stirring national songs — but couldn't because you didn't know the words?

This handsome pocket edition, gives you the words of these songs, all correct in handy form. Get this book for yourself—and by all means for the children, ONLY 25c

Liberal discounts for large quantities

HENRY R. KINGSLEY
23 James Street Newark, N. J.

We Supply the U. S. Government.

Prices Cut in Half this season. Our large new 104-page Band instrument catalog Sent FREE. Write to-day.

THE RUDOLPH WURLITZER CO.
124 E. 4th St. Cincinnati; or, 345 Wabash Ave. Chicago, Ill.

PARKER'S HAIR BALSAM

Cleanses and beautifies the hair. Promotes a luxuriant growth. Never Fails to Restore Gray Hair to its Youthful Color. Cures scalp diseases & hair falling. 50c. and $1.00 at Druggists.

GENUINE BARGAINS IN HIGH-GRADE UPRIGHT Pianos. Slightly used instruments: 12 Steinways from $350 up; 6 Webers from $250 up; 9 Krakauers from $250 up; 7 Knabes from $250 up; 3 Chickerings from $250 up; also ordinary second-hand Uprights $75 up; also 10 very fine Parlor Grand pianos at about half. Write for full particulars. Cash or easy monthly payments. Lyon & Healy, 62 Adams St., Chicago. We ship everywhere on approval.

GOLD WEDDING RING GIVEN

Send for 10 packages of our beautiful silk and gold embossed post cards to distribute at 10c each. Return us the $1 when collected and we will send you by return mail this very fine 14K gold filled heavy band ring, not the cheap kind. Address R. F. MOSER, 331 Household Bldg., Topeka, Kan.

Corsage Flower Sachet

All girls like to use a delicate sachet. Something new in the way of a sachet-bag to tuck into the top of the corset is a corsage flower sachet.

To make it, one yard of white wash ribbon three inches wide, also one half yard of white wash baby ribbon, will be required.

Cut the wide ribbon into the following lengths: One piece eight and one half inches long, for the sachet-case, and five pieces five and one half inches long, for the petals of the flower.

Fold the eight-and-one-half-inch piece double, stitch the sides together to form a bag or case, and make a half-inch hem around the top. In the center, back of this hem, make a couple of long eyeleted holes, the outlets for the drawing string or ribbon, which may thus be pulled very tightly together. One fourth of a yard of baby ribbon will do for this.

Make an inner bag, slightly smaller, of lawn or linen. Place two layers of white cotton sheet wadding inside the lawn bag. Sprinkle the sachet between the separated portions of each layer, onto the soft, fluffy inner cotton, to prevent the sachet-powder from settling to the bottom of the bag.

To make the flower rosette, fold each length of ribbon double, turn back the two corners at the fold about one half inch, and tack lightly with needle and thread; gather the raw edges tightly together. When the five petals are completed, sew all together in rosette form, one slightly overlapping another.

Gather one edge of one fourth of a yard of baby ribbon (less if very heavy ribbon), and pull together rather loosely; fasten off. Twist or coil into a careless but tight rosette, and sew securely to the center of the flower. E. R.

A Daisy Booklet

If you happen to have a friend to whom you want to give a little birthday remembrance, something novel and something you can make yourself, try the daisy booklet here described. To make it, use rough water-color paper, cut about six by nine inches, and fold so that notepaper will fit nicely into the covers.

Decorate the front outside cover with a few daisies and the words "Flowers of Fate" intertwined among the blossoms. On the first inside leaf print in fancy lettering the little couplet:

If you wish to know what's to be your fate,
Consult the daisies before it's too late.

On the next five pages paint only the stems, leaves and centers of daisies, leaving the petals to be put in out of glazed paper. The petals are made from glazed white paper and cut in pointed oval form, just like a real daisy, only large enough to permit a word or sentence to be written on the lower half, then folded through the middle. They are then pasted in the space left for them in the center of the daisy, there being nine petals to each daisy.

In the center of the top of the second page make in fancy lettering the words "YOUR FATE," and have written on the petals of that daisy the following: "To Travel," "To Make Conquests," "To Live Long," "To Be Rich," "To Do Good," "To Be Feared," "To Work," "To Influence Others," "To Live Single." Remember to fold the petal to conceal the writing.

On the next page have "YOUR OCCUPATION" in lettering at the top, and on the nine petals of the daisy: "Music," "Teaching," "Doctoring," "Flirting," "Painting," "Washing," "Match-Making," "Preaching," "Writing."

Head the next page with "YOUR GREATEST DESIRE." On the daisies write: "To Be Loved," "To Give Pleasure," "To Be Funny," "To Be Wealthy," "To Be Famous," "To Be Married," "To Be an Orator," "To Be Popular," "To Be Happy."

The next page should be "YOUR CHARACTERISTICS, and on the daisies: "Determination," "Wittiness," "Earnestness," "Optimism," "Pessimism," "Patience," "Dignity," "Originality," "Laziness."

The next page is "WHEN YOU WILL MARRY," and on the daisies: "Soon," "When the Roses Bloom Again," "At the First Chance," "When You Get Old Enough," "Next Leap-Year," "When Women Vote," "When You Get Rich," "When You Learn to Love," "When the Right One Comes Along."

Upon the last page, in defiant lettering, let this couplet run:

I don't care what the daisies say,
I'll be married some fine day.

The pages and cover are fastened together with baby ribbon.

The book is used to tell fortunes by having a guest choose a daisy petal, which when opened will reveal its secret. G. S.

Something Different in a Jabot

Suggestions for Remodeling Old Sleeves

Of all the little dress accessories that play such an important part in one's costume, there is nothing that deserves so much attention as the new things for the neck.

Have you girls ever stopped to think of what a real smart new touch you can give an old waist or a last year's spring jacket by wearing with it something new and becoming in the way of a collar or a jabot?

Something different is shown in the above illustration. The material used is cream-color net and the original touch is given by a very narrow cravat of black satin, which is worn around the base of the collar and then continued down the center of the jabot. The black satin is trimmed with buttons and the effect is very smart indeed.

Then here is another idea, also a bit different. When I planned to wear the jabot with a waist of net or lawn, which was in sad need of a renovating-touch, I would select some light shade of either velvet or satin ribbon for the cravat, say baby blue, and upon this I would embroider, either with floss or baby ribbon, little pink roses. Just imagine how pretty that would look with the tiny pink roses down the front of the jabot and around the neck.

Girls, have you ever thought what pretty sleeves you can make for your summer gowns from left-overs out of the piece-bag? The group of sleeves pictured on this page has many suggestions which ought to be helpful in making over old sleeves.

A Modish Hat-Bow

The summer season in millinery opened with the regular display of gay flowers and with an unusually lavish showing of all kinds and colors of ribbon, principally in the softer shades. Ribbon alone, without any other trimming, is used very extensively on many of the summer hats. One simple and favorite mode of trimming is to place a rather large graceful bow or rosette on the left side of the hat, and softly drape the ribbon around the crown.

It is many times a decided convenience to know just how to tie or form a handsome and modish bow.

The one illustrated below was made of light-weight messaline ribbon, reseda in color. Two and one fourth yards of ribbon six inches wide were required.

I should advise experimenting first with a piece of tissue-paper six inches wide and the full length of two and one fourth yards. Of course, old ribbon will also serve the purpose, but it must be free from wrinkles or creases.

It will be wise for the beginner, in making the rosette or bow, to mark the length of the loops with pins or pencil before commencing to form the bow. After you have acquired the "knack," the marking may not be necessary.

Mark your ribbon (or paper) at distances of eight inches apart. Hold the ribbon in your left hand at the first marking (eight inches from the end), and with your right hand roughly plait the ribbon together, holding it between the thumb and forefingers of the left hand. To make the first upper loop, turn the ribbon away from you, and at the next marking roughly plait the ribbon together, and bring it also between the thumb and forefinger of your left hand. To make the lower loop, turn the ribbon (always) away from you, and at the next marking plait the ribbon together, and bring it again between the thumb and forefinger of your left hand.

To make the next upper loop, proceed as before described; then another lower loop, and so on, alternating until you have eight loops formed, holding the centers of all between the thumb and forefinger. Wind the centers with a piece of strong thread, then bring the remaining end of the ribbon up, over and around the centers, then down through the loose loop thus formed; pull the end tightly to make the center knot, which finishes the bow. The two ends should be cut diagonally, slightly curving the cut, so as not to have the effect too abrupt.

After you have experimented once or twice with tissue-paper you will be quite competent to attempt the ribbon bow.

After the center knot is tied you will be able to shape the bow in several different ways. You can pull the loops into a perfect round rosette. You can separate them into a distinct bow of four upper and four lower loops, with the two ends drooping below the lower loops. You can turn the bow sideways, and thus have four loops at each side of the center knot, with the two ends hanging at right angles.

The directions given have been for ribbon the same on both sides. Where there is a satin face to the ribbon, always keep this face toward you. After making the upper loop, and just before beginning the lower loop, twist the ribbon so that the satin face is toward you. It will twist easily and stay in place between the long-suffering thumb and forefinger.

Bow-making is really very simple. Remember one thing: Never plait a double thickness of ribbon in making any kind of bow.

I have given you the dimensions of a fair-sized hat-bow. If you desire the ribbon to extend around the crown of the hat you must make extra allowance for same. E. L. H. R.

A Smart Hat-Bow of Reseda-Green Ribbon

Spring Dresses

Style and durability blossom into beauty and economy in **Simpson-Eddystone Shepherd Plaids** — the cotton dress goods with perfectly fast colors. These calicoes have been the standard of the United States for over 65 years. Some with a new silk finish.

Ask your dealer for Simpson-Eddystone Prints. If he hasn't them write us his name. We'll help him supply you. Don't accept substitutes and imitations.

The Eddystone Mfg. Co., Philadelphia
Established by Wm. Simpson, Sr.

Three generations of Simpsons have made

SIMPSON TRADE MARK REG. U.S. PAT. OFF. EDDYSTONE PRINTS

Founded 1842

Madison Square Patterns

No. 1283—Double-Breasted Shirt-Waist
Sizes 32, 34, 36, 38 and 40 inch bust measures.

Variety is the keynote to this summer's fashions, and incidentally this is a great help to women who have to make over their last season's clothes.

Take the question of sleeves, for instance. Though they are all close-fitting, which is a good feature in their favor from the made-over point of view, they show much variety. The long close-fitting sleeve is used especially for shirt-waists. This long sleeve is also fashionable for afternoon gowns, and one of the newest models shows the introduction of a very short puff at the shoulder—just a suggestion, perhaps, of what may be coming later.

For midsummer wear the three-quarter-length sleeve will be favored. This sleeve is frequently tucked and finished with an armband, which for a linen or any wash gown looks well embroidered or formed of embroidery beading, through which ribbon is run and then tied in a smart bow.

Though the cut-in-one dresses are still the height of fashion, yet many waists and skirts are worn with the belt coming much nearer the normal waistline than for many, many months past. Plaits are seen in the newest skirts and are inserted in many different ways. Flounces are also favored.

No. 1283

No. 1323

Nos. 1321 and 1322

No. 1328—Misses' Outing Waist With Dutch Collar
Sizes 12, 14 and 16 years.

No. 1329—Misses' Tucked Skirt Buttoned in Front
Sizes 12, 14 and 16 years.

No. 1307—Gored Skirt With Plaited Insets
Sizes 22, 24, 26 and 28 inch waist measures.

No. 1323—Princess Dress With Flounce
Sizes 34, 36, 38, 40 and 42 inch bust measures.

No. 1321—Full Waist With New-Style Sleeves
Sizes 32, 34, 36 and 38 inch bust measures.

No. 1322—Five-Gored Skirt, Slightly Full at Waist
Sizes 22, 24, 26 and 28 inch waist measures.

No. 578—Convalescent Gown
Sizes 32, 34, 36 and 38 inch bust measures.

No. 1171—Double-Breasted Blouse With Rolling Collar
Sizes 32, 34, 36 and 38 inch bust measures.

No. 1172—Nine-Gored Plaited Skirt
Sizes 22, 24, 26 and 28 inch waist measures.

No. 1318—Child's Rompers
Sizes 2, 4, 6 and 8 years.

No. 578

Madison Square Patterns

Ten cents will buy a complete working pattern of any design shown on this page. Send orders to the Pattern Department, Farm and Fireside, 11 East 24th Street, New York City.

The Summer Style Book of Madison Square Patterns will be out June 20th. If you want to know all about summer fashions, send in your order at once for the Style Book. Inclose four cents in stamps and send your order to the Pattern Department.

How to Get Patterns Without Cost

We will send you two of Farm and Fireside's Madison Square Patterns, without cost, if you will send us two subscriptions to Farm and Fireside. One of the subscriptions may be your own. Either subscription may be for one year at thirty-five cents or for two years at fifty cents. You may choose any two patterns shown on this page or in any other issue of Farm and Fireside. Send your order to the Pattern Department, Farm and Fireside, 11 East 24th Street, New York City.

Copyright, 1909, by The Crowell Publishing Company

Nos. 1171 and 1172

HOLIDAYS ARE KODAK DAYS

There's twice the pleasure in every outing for those who Kodak. Not merely the increased pleasure of the day's trip, but afterward, added pleasure in the possession of pictures of people and places and incidents that have gone to make up the day's enjoyment.

And anybody can make good pictures with a Kodak or a Brownie Camera. Every step is simple now. There's no dark-room for any part of the work. Loading, unloading, developing, printing, are all by daylight. You can easily do it all; or if you prefer may "*press the button*" and leave it to another to "*do the rest.*"

Kodak, you know, means photography with the bother left out.

KODAKS, $5.00 to $100.00. Brownie Cameras, they work like Kodaks, $1.00 to $12.00.

Ask your dealer or write us for the 1909 Kodak Catalogue.

EASTMAN KODAK CO.
382 State Street, ROCHESTER, N. Y.

The COLLAR THAT SAVES THE DOLLAR

Think of it—at least two cents a day for your collar wash bill! That's $7.30 a year—and $3.00 for the collars. That's $10.30. You didn't know it cost so much? Well—**four LITHOLIN Waterproofed Linen Collars cost $1.00** and will last you a year. When soiled just wipe them white as new with a damp cloth. Always keep in shape, never wilt or fray, and are to be had in every fashionable style. The same collar you have always worn, only waterproofed. All sizes. Then there's "cuff" money—figure that out, and you'll investigate. If so you'll buy **LITHOLIN.**

Collars 25c. Cuffs 50c.

Always sold from a RED box. Avoid substitution.

If not at your dealer's, send, giving styles, size, how many, with remittance, and we will mail, postpaid. Styles booklet free on request.

THE FIBERLOID COMPANY
Dept. 14, 7 Waverly Place, New York

STYLE ECONOMY LITHOLIN WATERPROOFED LINEN COLLARS & CUFFS FIT COMFORT

Allen's Foot-Ease

Shake Into Your Shoes

Allen's Foot-Ease, a powder for the feet. It relieves painful, swollen, smarting, nervous feet, and instantly takes the sting out of corns and bunions. It's the greatest comfort discovery of the age. Allen's Foot-Ease makes tight-fitting or new shoes feel easy. It is a certain help for ingrowing nails, perspiring, callous and hot, tired, aching feet. We have over 30,000 testimonials. TRY IT TODAY. Sold by all Druggists and Shoe Stores, 25 cents. Do not accept any substitute. Sent by mail for 25 cents in stamps.

"In a pinch, use Allen's Foot-Ease."

FREE Trial Package Sent by mail
ALLEN S. OLMSTED, Le Roy, N. Y.

ELEGANT Thin Model 20 YEAR WATCH

Hunting case beautifully engraved, gold finished throughout, stem wind and stem set, fitted with 7 ruby jeweled American lever movement. Guaranteed 20 years; with long gold plated chain for Ladies or vest chain for Gents.

$3.75

LADIES or GENTS size

IF YOU SEE IT YOU WILL BUY IT. Let us send it without expense to you C.O.D. express charges paid by us, for examination at your nearest express office and if you think it a bargain and equal in appearance to any $15.00 gold filled watch pay the express agent $3.75 and it is yours. Mention if you want Gents or Ladies size. H. C. FARBER, CSO, 225 Dearborn St., CHICAGO

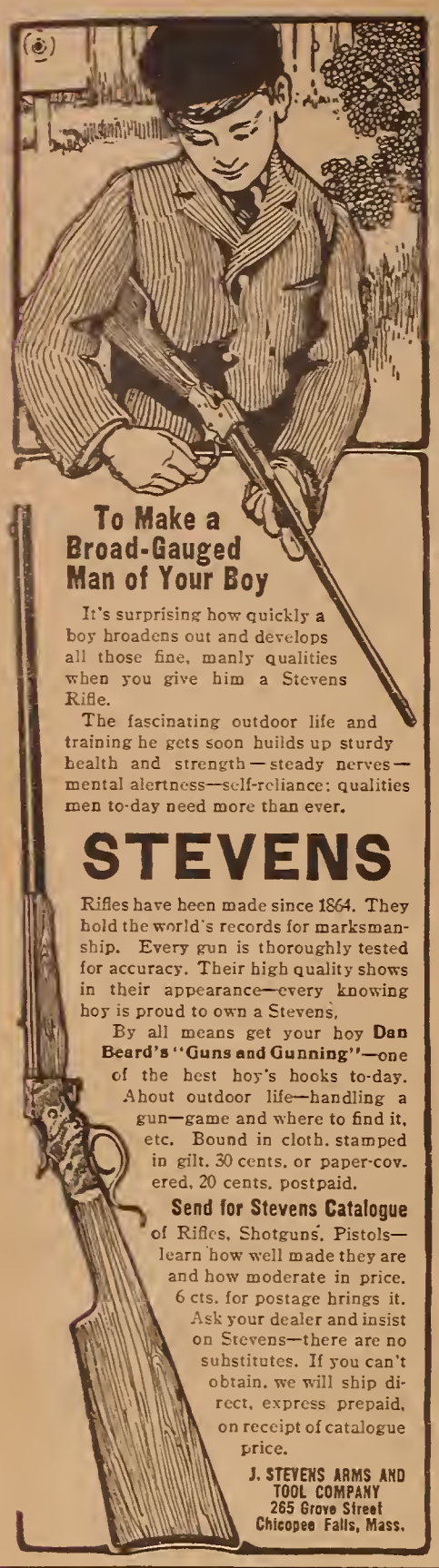
FREE BOOK ON DEVELOPERS
with every order of
ENSIGN FILMS
Hauff Developers,
Imperial Plates Sussex Paper
Free catalogue on request
G. GENNERT, Dept. F.
NEW YORK, 24-26 E. 13th St.
CHICAGO, 20-24 State St.

It is to your advantage to mention Farm and Fireside in writing to advertisers. Farm and Fireside folks get the very best attention.

LEARN TO WRITE ADVERTISEMENTS IF YOU ARE EARNING LESS THAN $25 A WEEK

we can positively show you by mail how to increase your salary. Send for beautiful prospectus, mailed FREE.

PAGE-DAVIS SCHOOL, Dept. 25, Chicago, Ill.



To Make a Broad-Gauged Man of Your Boy

It's surprising how quickly a boy broadens out and develops all those fine, manly qualities when you give him a Stevens Rifle.

The fascinating outdoor life and training he gets soon builds up sturdy health and strength—steady nerves—mental alertness—self-reliance: qualities men to-day need more than ever.

STEVENS

Rifles have been made since 1864. They hold the world's records for marksmanship. Every gun is thoroughly tested for accuracy. Their high quality shows in their appearance—every knowing boy is proud to own a Stevens.

By all means get your boy **Dan Beard's "Guns and Gunning"**—one of the best boy's books to-day. About outdoor life—handling a gun—game and where to find it, etc. Bound in cloth, stamped in gilt, 30 cents, or paper-covered, 20 cents, postpaid.

Send for Stevens Catalogue of Rifles, Shotguns, Pistols—learn how well made they are and how moderate in price. 6 cts. for postage brings it. Ask your dealer and insist on Stevens—there are no substitutes. If you can't obtain, we will ship direct, express prepaid, on receipt of catalogue price.

J. STEVENS ARMS AND TOOL COMPANY
265 Grove Street
Chicopee Falls, Mass.

Agents Wanted

AGENTS PORTRAITS 85c, FRAMES 15c, sheet pictures 1c, stereoscopes 25c, views 1c. 30 days credit. Samples & Catalog Free. Consolidated Portrait Co., 290—81 W. Adams Street, Chicago

AGENTS WANTED Men or Women to sell Consumers. Big Profits. Groceries, Coffees, Teas, Extracts, Perfumes, Soaps, etc. With or without premiums. Write for catalogue A. Bushway Flavoring Extract Co., 951 N Water St., Decatur, Ill.

JUST OUT Low priced, 3-lb Mop: turn crank to wring; hands keep clean. Women all buy; 150% to Agents; exclusive territory given; catalog free. U. S. MOP CO., 642 Main St., Leipsic, Ohio.

AGENTS New Invention; never before sold in your territory; horse owners wild about them; automatic fastener sells at sight; coin money; a fortune in your territory; free sample to workers; write at once Automatic Fastener Co., G621, Cincinnati, Ohio

You can do as well. We show you how. Write for instructions and Agents FREE OUTFIT. ANCHOR MFG. CO. Dept 5 **Agents**—$66.00 per month selling this wonderful Lock Stitch Sewing Awl. One agent sold $24.00 worth in 5 hrs. Cleared $13.25. Box 484, Dayton, Ohio.

$61.50 WEEKLY INTRODUCING and selling A GASLIGHT BURNER FOR KEROSENE LAMPS. Beautiful light, no chimney, durable, lasts for years. Fast seller, no risk, 200 per cent. profit. Experience not necessary. SAMPLES FREE. Beware of imitations. No branch offices. Address LUTHER MFG. CO. Dept. 143 Cincinnati, O.

AGENTS My Sanitary Coffee Maker produces pure, sweet coffee, needs no settler and never wears out. Saves coffee, money and health. Every wife buys at sight; new invention; exclusive territory. Send 15c. for 50c. size, postpaid. DR. LYONS, 253 Day St., Pekin, Ill.

$18 to $30 A WEEK SURE Farmers "Ever-Ready" Tool Kit does it. 10 TOOLS IN ONE. Agents going wild over results. M. Snyder made $46 in 9 hrs. Joseph Pine took 65 orders in two days. M. D. Finch sold 42 in 9 hrs. Had no experience. You can do it. To show it means a sale. FREE SAMPLE to workers. Foote Mfg. Co., Dept. 801 Dayton, O.

Don't Throw it Away. Does Your Granite Dish or Hot Water Bag Leak? USE **MENDETS** A PATENT PATCH. They mend all leaks in all utensils—tin brass, copper, graniteware, hot water bags etc. No solder, cement or rivet. Any one can use them; fit any surface; two million in use. Send for sample pkg. 10c. Complete pkg. assorted sizes, 25c postpaid. Agents wanted. Collette Mfg. Co., Box 748 Amsterdam, N. Y.

Our Young Folks' Department

How Dolly Went Kite-Riding

By Iola M. Mullins

Billy and Bug had made a lovely kite of blue and yellow, with Winks and Jinks running to get things for them, and holding the paste and helping lots. Finally it was all ready, and Bug, astride the fence, held it as far up as he could, while Billy clung to the string and Winks lifted the long tail from the ground and Jinks clapped her fat little hands, dancing up and down.

Then there was a fine gust of wind that carried it off, and the kite tugged on the string, trying to get away. Bug had to help hold it, and finally Winks and Jinks were tugging, too, at the end of the string, for it sailed away almost to China, Billy said he thought. Then they drew it in slowly, to have the fun of starting it again. As Billy held it up he caught a glimpse of Angelina Clarissa, Jinks' best-loved paper doll.

"Oh, Jinks," he cried, "let's give Angelina a ride on the kite."

There was a chorus of "Oh, let's," and Jinks danced with joy at the idea. So Angelina Clarissa was soon standing clinging to the frame of the kite, all ready for the trip, and then there was another grand start, and the kite flew off beautifully. But suddenly there was a great big gust of wind, and before anybody could think, the string slipped right through Billy's fingers, and the kite and Clarissa were gone.

Billy recovered himself first, and climbed upon the fence, but by the time he had reached it, not a sign of the kite was to be seen.

Oh, how Billy did hate to lose that kite! But when he looked at Jinks, and saw the quiver about her lips, and thought of the beloved Angelina, he forgot his own loss to comfort her. Mother allowed Billy and Bug to go back in the alley and all around the square, but nothing could be found of the lost kite and its precious freight.

A few weeks after this blowy March morning mother went one day to see an old servant a few squares away who was ill, and as she passed along the narrow street, with windows and doors opening upon it, a pale, thin little face propped upon a bed close to a dingy window caught her attention. And what do you think mother saw in the little fingers? Why, Angelina Clarissa herself! You see, mother had painted that dolly, and she would have known it anywhere.

She knocked at the door and asked if she might chat a bit with the little sick girl. The poor mother, who had left her wash-tub to come to the door, was greatly pleased, and so the visit began.

Mother and the little girl chatted like old friends, and finally she asked where the dolly came from.

"It came from heaven," said the child, "in a blue-and-gold chariot. God sent it, 'cause he knew I didn't have a pretty doll, and 'cause I can't never walk about and see pretty things. Ma says it wasn't any chariot, but just some boy's kite. I call it a chariot, though, and it came right down there," pointing to the window-sill.

So that was where Angelina Clarissa had been all these weeks—making a little sick girl happy. Mother hurried right home to tell the children about it, and even Jinks was glad that Angelina had taken the reins of the kite chariot and driven right over to the poor little girl's house.

Cousin Sally's Letter

Dear Boys and Girls:—

I have received quite a number of letters from boys and girls who cannot understand why their names have not been printed in the Post-Card Exchange. I am afraid they do not stop to think that perhaps there is already a long list of names waiting to be published. The only way I can do is to take each one in turn, for there are so many that it would be impossible to print them all in one issue. So please be patient, dear cousins. Even though your name is not printed, you are at liberty to send post-cards to any of the boys and girls whose names appear on this page. One word more about the Exchange. As I have said many times before, no names will be printed in this column except those where the age is given.

I am going to make my letter short this time. I want to give up the space to the Letter-Box and Post-Card Exchange.

Write to me soon, dear boys and girls, and be sure to enter this month's contest. I was disappointed that there wasn't a larger response to last month's contest. I am sure the subjects I have chosen are easy enough for you. Don't think you can't write or draw. Just sit down and try and see what you can do. You will be surprised at the results. Be persistent and persevering and success is sure to come to you.

With a great deal of love,
Always lovingly.
Cousin Sally.

Monthly Prize Contest

Every boy and girl under seventeen years of age is invited to enter our monthly contests. It doesn't matter in the least whether or not your name is on the subscription list of Farm and Fireside; every boy and girl reader is welcome to join in our good times. If you are interested in this page, show Cousin Sally that you are by taking part in this month's contest. Sit down now and do the very best work you can on any of the following subjects, and send it along.

The stories should not be longer than three hundred words, and the poems not more than three or four stanzas. Write in ink, on one side of the paper. The drawings may be in any medium you choose. However, be careful not to roll them, but send them flat.

The contest closes June 20th. Address Cousin Sally, care of Farm and Fireside, 11 East 24th Street, New York City.

Verse. Subjects: "In the Orchard" or "My Dolly."

Drawings. Subjects: "The Little Soldier" or "The Little Housekeeper."

Story. Subjects: "When I'm a Man" or "My Favorite Pastime."

To the boy and the girl sending in the best work on any of these subjects, Cousin Sally will give prizes as follows: A cow-boy holster, paints, books, a set of plain post-cards, with a coloring outfit, a bisque doll, and other charming supplementary prizes.

The Post-Card Exchange

Joe B. Schirmer, age fourteen, Ghent, Kentucky. Blanche M. Hart, age fifteen, Fernwood, Ohio. Ellen Bates, age eleven, Box 14, Goshen, Massachusetts. Geo. Spicer, age fourteen, Route C, Watertown, New York. Lottie W. Cater, age twelve, R. F. D. No. 1, Box 26, St. Cloud, Minnesota. Hilda Luedeeking, age thirteen, R. F. D. No. 2, Box 88, Gobleville, Michigan. Geo. Lawrence, age ten, Quenemo, Kansas. Rema Boyd, age fourteen, Sedalia, Kentucky. Beulah Kimes, age nine, R. R. Box 48, Covell, Illinois. Vernie C. VanArsdale, age sixteen, Pulaski, New York. Forest Wiles, age eleven, R. F. D. No. 1, Smiths Basin, New York. Lena M. Heaton, age eleven, R. F. D. No. 1, Rosewood, Ohio. Alma Hostetler, age fourteen, Route 2, Box 63, Dundee, Ohio. Blanche Crosse, age fourteen, Howard, Ohio. Chester Spinney, age eleven, R. F. D. Box 56, Petersham, Massachusetts. Ernest Parkin, age eleven, Box 125, North Woodbury, Connecticut. Verga Young, age, fifteen, Holgate, Ohio. Lila Gray, age sixteen, Bluevale, Ontario, Canada. Mabel McKinney, age twelve, R. R. No. 8, West Toledo, Ohio. Rose Marie Wood, age twelve, Orchard Farm, Eberle, Illinois. Edna I. Crawford, age eleven, Good Hope, Illinois. Harry Zeigert, age twelve, R. F. D. No. 2, Box 8, Coloma, Michigan. Margaret S. Mahler, age fourteen, R. F. D. No. 2, Waynesboro, Virginia. Vivian R. Hodgin, age fifteen, 613 Douglas Street, Greensboro, North Carolina. Ina Whalen, age nine, Sunrise, Kentucky. Marguerite Williams, age twelve, R. R. No. 1, Ordway, Colorado. Dan Beeler, age seven, R. R. No. 3, Box 86, Rockport, Indiana. Pearl I. Alford, age sixteen, R. F. D. No. 1, Box 31, Tiffin, Ohio.

The Letter-Box

Dear Cousin Sally:—I have been reading Farm and Fireside, and I thought I would like to be one of your cousins. I am a little girl eleven years old. We live in the old homestead, thirty-five miles from a railroad and seventeen miles from an inland town. There is a tower out here about four miles from our place. It is a natural formation of granite and is eight hundred feet high. It is called the Devil's Tower and can be seen for miles around. Opal Dagger,
Hulett, Wyoming.

Dear Cousin Sally:—I have been sick and unable to write, but I want to write now and thank you for the pretty doll that you sent me as a reward for my little poem. I have named the doll "Golden."

Yesterday was the fifteenth anniversary of our Junior League. We gave an entertainment and supper. Our Junior League sends enough money every year to support a little girl in India. Her name is San' tō shăn ă, but her English name is Joy.

Myrta Widmoyer, Age Ten,
Emerado, North Dakota.

Dear Cousin Sally:—I live two and one half miles from town, in a little grove called Ware's Grove. My great-grandfather, Benjamin Ware, and his brother, Obadiah Ware, settled this grove in 1824. At that time all the country around was open prairie. My grandfather, Justus Ware, lives on the farm where his father first settled. He is now seventy-four years old, and has always lived in the same house. I enjoy our corner very much. Sincerely,

Leland Ware Busby,
Butler, Illinois.

Dear Cousin Sally:—I live at the foot of Kenesaw Mountain, three miles from Marietta, where the National Cemetery is.

It is a lot of fun to go up the mountain and gather flowers. I find lots of mountain dogwood and white ash. I have been once this year, and just love to go. From the mountain we can see Atlanta, Blue Ridge Mountains in Tennessee, and Stone Mountain.

I would like to write to some of the cousins of my own age and exchange post-cards with them. Your cousin,

Edna Annandale, Age Thirteen,
Marietta, Georgia.

The Housewife's Club

Here is a chance for each of you to help one another. Possibly you have discovered some new and practical idea in keeping house, some labor-saving method, some delectable recipe, some new way of making home attractive, in general something to make the housework easier and life more enjoyable. Why not give the rest of our readers the benefit of your experience? We will pay twenty-five cents for any contribution available. This department will appear monthly. Contributions must be written in ink, on one side of the paper, and must contain not more than two hundred and fifty words. We would suggest that contributors retain copies of their manuscripts, as no contributions will be returned.
Address THE HOUSEWIFE'S CLUB, care of Farm and Fireside, Springfield, Ohio.

To Can Sour Cherries

Pick and seed the cherries, and put them in cold water overnight. In the morning put them in boiling water, and let boil up once. Fill cans about three fourths full, and drain off all the juice. Have ready a hot syrup (not too thick) made of granulated sugar, and pour it over them. Let stand a while, and fill again as the cherries absorb the syrup. Seal while hot. They are excellent. Try it. B. N. S., Indiana.

Cucumber Pickles

One gallon of cider vinegar, one cupful of salt, one cupful of brown sugar and one cupful of ground mustard. Mix together. Wash the cucumbers, and wipe dry. Put them into the mixture, keep in a cool place, and in six weeks they will be ready to use.
Mrs. J. B. H., North Dakota.

Brown Bread

Two cupfuls of corn-meal, two cupfuls of Graham meal, one cupful of flour, one cupful of molasses, three and one half cupfuls of sour milk, two teaspoonfuls of soda and one half teaspoonful of salt. Mix thoroughly, and put this batter in a five-pound lard-pail, and steam three hours. Bake one hour in a moderate oven. C. E. H., Massachusetts.

Chocolate Cake

Here is an excellent recipe for a chocolate cake which I would like our readers to try. Mix two squares of chocolate in one half cupful of milk. Boil until thick, and let cool. One and one half cupfuls of sugar, one half cupful of butter, cream together, beat in three eggs, then add one half cupful of sweet milk, two cupfuls of flour to which has been added one teaspoonful of soda and one teaspoonful of baking-powder. Flavor with vanilla. Last of all stir in the chocolate. Bake in three layers, and use white frosting for the filling.
Mrs. W. A. K., New York.

When Cake Sticks to the Tin

So many housewives are troubled with their cakes sticking to the tin. Here is a remedy which has helped me: As soon as I take the cake from the oven I place the pan on a folded, wet cloth, and allow it to steam for a few minutes. The cake will slip from the tin without breaking. L. M. T., Wisconsin.

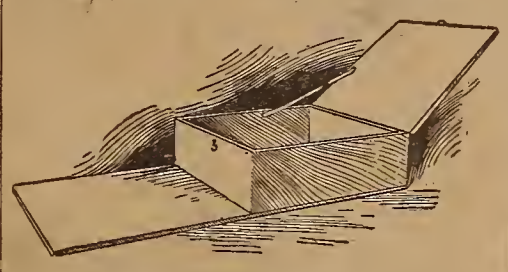
Scrap-Books for Children

Old window-shades are just the things to use for picture-books for the little folks. Wipe them off with a damp cloth, then cut ten or twelve leaves any size desired, and stitch them into a stiff board cover taken from an old school note-book. Paste in pretty pictures from magazines or elsewhere, placing a colored one on the cover. These are better than the ones made of cambric, and are sure to delight the little people.
Mrs. E. D. C., New York.

Utilizing Flour-Sacks

I would like to tell the women readers of "The Housewife's Club" about my tea-towels. I purchase flour-sacks from our baker, and from these make excellent towels for drying dishes. They give a fine gloss and leave no lint. If the sacks are soaked overnight in cold water and soap, the letters may be easily washed out. I buy the twenty-five-pound sacks at four cents apiece, and after washing and boiling, I can make two towels from one sack. We also use them for putting away our smoked meat. After the hams and shoulders have been smoked, we wrap them first in brown paper, and then inclose each piece in a flour-sack. In this way no insects can get at the meat.

I also use these sacks for jelly-bags, and at syrup-making time for straining the syrup. M. C. S., Indiana.

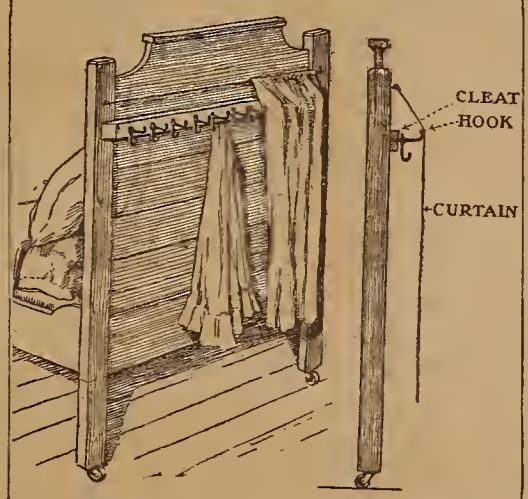


Handy Scouring-Box

This useful little article can be made from a small cigar-box by fastening it with screws or nails to a piece of board as here illustrated. The box should have a catch of some kind—a small staple or hook will do—so that the lid may be fastened down when not in use, and the device hung up.

For a Room Without a Closet

Fasten with good strong screws to the posts on the back of the head of the bed a cleat one inch thick. Screw into this a dozen double clothes-hooks. Set the end hooks some distance from the



end of the cleat, so that the garments will not hang far out, to show the front of the bed. A curtain will keep all the garments free from dust.
A. B. G., Vermont.

Household Helps

Sponge off your straw matting with warm salt water, to stiffen and brighten it.

Dip your brooms once a month in boiling suds, and they will wear much better, since this toughens them.

A small chunk of alum put in the starch will make the clothes iron so much nicer, and they will not soil so readily.

If your cellar is inclined to be damp, keep a vessel of lime in it. A vessel of it in the pantry is also an excellent idea.

Ceilings that look very rough and have a tendency to peel should be gone over with a solution of an ounce of alum to one quart of cold water. This will remove the superfluous lime and render the ceiling white.

Fresh clover is one of the best carpet renovators that one can use. Spread it over the carpet, and let it lay for a few minutes, then sweep. All the dust will be absorbed in the sweeping, and one need not breathe their lungs full of it. Lawn clippings are excellent for the same purpose, and many people use tea-leaves or newspaper clippings moistened with a little ammonia-water.

Jelly Roll

Three eggs, one teacupful of sugar, one teacupful of flour, one teaspoonful of baking-powder, three tablespoonfuls of water, and flavor to taste. Beat the eggs, sugar and flour together until light, then add the baking-powder, water and flavoring. Stir briskly for a few moments until thoroughly mixed. Bake in a large bread-pan in a quick oven, and when done, turn out of the tin. Spread the jelly on cake, and roll. G. M. L., Kansas.

To Wash Calico

Calico will not fade if washed in this manner: To four quarts of boiling water add three gills of salt. Put the calicoes in while hot, and leave them in the water until it cools. In this way the colors will be rendered permanent, and will not run by subsequent washing.
L. M., Michigan.

Easily-Worked Buttonholes

The accepted method of working buttonhole-stitch seems to be to hold the cut edge away from you, to set the stitch in the material from beneath, loop the thread around the needle, and draw up by pulling the thread from you. I marked the ease with which a friend worked buttonholes one day. She held the cut edge toward her, and setting the stitch in the material from the top, drew the thread toward her through the loop which formed naturally of itself. There was no tiresome stopping to throw the thread around the needle-point; after each stitch the thread fell naturally in place for the next loop, while greater evenness was assured by setting the stitch from the top, also less twisting of the thread. M. E. S. H., Michigan.

Questions Asked and Questions Answered

We shall be very glad to have our readers answer any of the questions asked, also to hear from any one desiring information on household matters. There is no payment made for contributions to this column.

Wanted—A recipe for making wine out of blackberry blossoms.
Mrs. H. E. P., Pennsylvania.

Will M. E., Ohio, tell me if she uses the oatmeal in fine grains or whether she means rolled oats (commonly called oatmeal) in her oatmeal cookies?
E. M. F., Indiana.

Will some reader give a recipe for a roll jelly cake that calls for as few eggs as possible, also a recipe for making ice-cream without eggs? New Subscriber.

Answers to Mrs. M. B. W., Virginia

If you will take your foot-tub to some tinsmith, he will solder it for you. I have had granite-ware repaired. Regarding your walls, if alabastine is used, it will not interfere with papering. I have seen paper stick as well after being painted with alabastine as before, but I do not know if you can get it in white.
Mrs. A. W., Illinois.

Miss H. Van L., Ohio, sends the following suggestion to Mrs. M. B. W., Virginia: For whitewashed walls that you wish to paper, dissolve one pound of sugar in one quart of vinegar. Put the solution on with a brush. I have never known it to fail.

A Subscriber

To Cook Salsify—Wash the roots, and scrape off their skins, throwing them, as you do so, into cold water, for exposure to the air causes them to immediately turn dark. Then cut crosswise into thin slices, and throw into fresh water enough to cover. Add a little salt, and stew in a covered vessel until tender, or about an hour. Pour off a little of the water, add a lump of butter, a little pepper and one cupful of sweet cream into which one teaspoonful of flour has been stirred. Boil up, and serve hot.
C. E. H., Massachusetts.

To Can Greens—I have canned dandelions, beets and kale with perfect success. Prepare as for cooking, and boil one hour (this is to shrink them). Fill your glass jars as full as you can, then fill with the water that the greens were boiled in, until it runs over the sides. Then put on new rubbers and the glass cover, and the wire over the top. Set in a kettle, and fill the kettle with cold water. Put on the stove to boil. After boiling two hours, snap down the wire, and boil one hour more. Set the kettle off, and let the jars cool. I also put up corn, peas and beans in the same way. Remember that the kettle must be kept full of water, as it boils away.
Mrs. N. P. N., Maine.

Mrs. M. C., West Virginia

Here is a recipe for dill pickles. In the bottom of a jar put a layer of grape and cherry leaves, then a layer of pickles washed clean, another layer of leaves with a few dill-leaves, and so on until the jar is filled with leaves and pickles. Then pour over all a brine of salt water, and weight down. They are ready for use in two weeks. I am sure that if Mrs. M. C. will follow these directions, the pickles will be satisfactory in every way.
Mrs. P. H., Indiana.

A REBELLION
Food Demanded

The human body will stand a lot of abuse, but some time it will surely rebel and demand the proper food in place of the pasty, starchy, greasy stuffs on which it has been made sick.

Then is the time to feed Grape-Nuts, the most scientific and perfect food in the world.

A lady of Washington says: "Three years ago I was very ill with catarrh of the stomach and was given up to die by one doctor. I laid in bed four months and my stomach was so weak that I could not keep down medicine or hardly any kind of food, and was so weak and emaciated after four months of this starvation that my daughter could easily lift me from bed and put me in my chair.

"But weak as my stomach was, it accepted and relished and digested Grape-Nuts without any difficulty the first time that wonderful food was tried.

"My doctor told me to eat Grape-Nuts, which were predigested, and although I felt certain I could not keep the food on my stomach, I made the trial, and it was a most complete success.

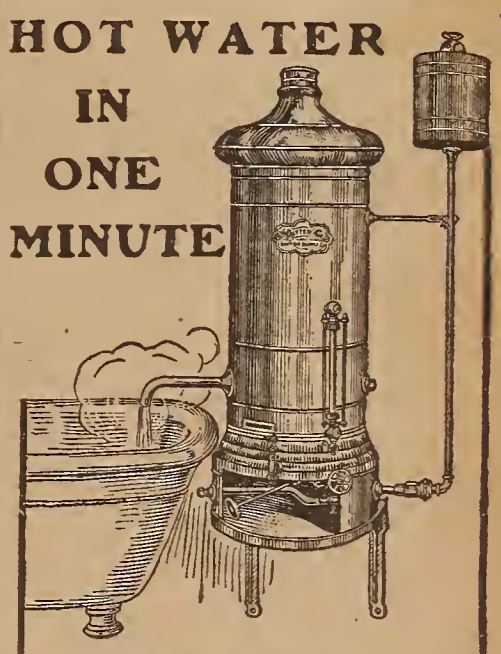
"I am now strong and in better health than for a great many years and am gradually growing still stronger. I rely on Grape-Nuts for most of the nourishment that I get. The results have certainly been wonderful in my case and prove that no stomach is so weak it will not digest Grape-Nuts.

"My baby got so fat from feeding on Grape-Nuts I was afraid I would have to stop giving the food to him, but I guess it is a healthy fat, for his health is just perfect."

Look in pkgs. for the famous little book, "The Road to Wellville." "There's a Reason."

Ever read the above letter? A new one appears from time to time. They are genuine, true, and full of human interest.

HOT WATER IN ONE MINUTE



Heats immediately—as much or as little as needed—no more, no less.
Uses gasoline, acetylene gas or ordinary gas. Capacity 2 gallons per minute.
Gasoline type $36.00. Acetylene gas type $32.00; ordinary gas type $24.00 up.
Sold on Approval. Write for Particulars.
DAYTON SUPPLY CO. Dept. H, DAYTON, OHIO

Do this with your children

School children should be fed plentifully and frequently on Quaker Oats. It makes the best possible breakfast for anyone who is to work with either brain or muscle. It's easy to prove this in your own family. Increase the daily consumption of Quaker Oats and you'll see an almost immediate improvement in the health and energy of those who eat it. The regular size package of Quaker Oats sells at 10c, the large family package size at 25c; the family package with a piece of china 30c.

Breakfast on Quaker Oats every day.

Rider Agents Wanted

in each town to ride and exhibit sample 1909 model. *Write for Special Offer.* Finest Guaranteed 1909 Models **$10 to $27** with Coaster-Brakes and Puncture-Proof tires. 1907 & 1908 Models all of best makes **$7 to $12** **500 Second-Hand Wheels** *All makes and models, good as new.....* **$3 to $8** Great Factory Clearing Sale. We **Ship On Approval** *without a cent deposit, pay the freight* and allow **TEN DAYS' FREE TRIAL.** Tires, coaster-brakes, parts, repairs and sundries, half usual prices. Do not buy till you get our catalogs and offer. *Write now.*
MEAD CYCLE CO., Dept. P83 Chicago

Are You Not Happy?

ARE YOU happy? If not, why not? You ought to be; it is your own fault if you are not. It is not your fault that you have few or no pleasures. But if you have the right character, you will have a blessedness; for blessedness belongs to character. If you have not blessedness, that is your fault.

You have great ambitions? If you had millions, what good you would do with them in promoting missions, endowing hospitals, educating the ignorant, succoring the suffering! If you had eloquence, how you would plead the cause of human rights; how eloquent for the dumb who cannot speak for themselves! If you had the pen of a ready writer, how you would inspire men with your fancies or guide them in the wise courses by your counsels! But you have none of these things. Your ambition is a great heartache. True! But you can have, if you will, the kingdom of God—righteousness, peace and joy in holiness of spirit. Your life can be a silent standard to all men and women who come in contact with you. Your spirit of peace can diffuse itself, making you an unconscious peacemaker wherever you go. Your joy and fellowship with your Father can make your life a song in the night and a gladness in the sunshine.

You are poor. You have esthetic tastes, but can buy no pictures; literary tastes, but can buy no books; you are a lover of Nature, but can have no garden. But possession is not enjoyment, and enjoyment does not depend upon possession. The Corinthian Christians were poor. Not many wise, nor mighty, nor noble in that city were called to discipleship. But it was to these poor outcast Christians Paul wrote: "All things are yours; whether Paul, or Apollos, or Cephas, or the world, or life, or death, or things present, or things to come, all are yours."

You have a strenuous life. No outcry of the past appeals to you more than this: "O that I had wings like a dove, for then I would fly away and be at rest." But this is not permitted to you. You are surrounded by clamorous children and by perpetually recurring household cares, or you are in the competitions of a business which, in its incessant demands upon you, resembles a battle-field; or you are engaged in a political life, fighting enemies of your country, and required to be always wary and generally belligerent. But it is not necessary to fly away in order to rest. A man may possess the spirit of peace while he is environed by war; he may dwell in peace though the clamor of arms is outside of his tent or though the whirl of a thousand spindles is in his factory. A woman may be at peace though children are clinging to her skirts and clamoring their beseechings in her ears. It was just as Jesus Christ had come from the vituperative mob in the Temple, and was going to the more violent outcries of the mob before Pilate's judgment-seat, that he said: "My peace I give unto you; let not your heart be troubled, neither let it be afraid."

You suffer from flagrant injustice, your words are misrepresented, your actions misunderstood, your motives maligned. Others who have done little and dared less step in before you and take life's prizes. Perhaps even your best friends misunderstand, if they do not misinterpret, you. What then? Have you never read, "The disciple is not above his master, nor the servant above his Lord?" "Blessed are they that are persecuted for righteousness' sake." For it is only by the resolution that triumphs over obstacles and the courage that faces danger and endures injustice that the kingdom of God is won.

Are you happy? If not, why not? Blessedness belongs to character. Whatever your circumstances, if you have the right character you will have blessedness.—From "Christ's Secret of Happiness," by Lyman Abbott.

God Watches Over Us

THE many troubles in your household will tend to your edification if you strive to bear them all in gentleness, patience and kindness. Keep this ever before you, and remember constantly that God's loving eyes are upon you amid all these little worries and vexations, watching whether you take them as He would desire.

Offer up all such occasions to Him, and if sometimes you are put out, and give way to impatience, do not be discouraged, but make haste to regain your lost composure.—Francis De Sales.

The Mistake of Yielding

I DO not believe there are many men or women in this big world of ours who are absolutely bad. Men who start out with the idea that they are going to do vicious things and women who really plan to go wrong and break the hearts of those nearest and dearest to them are unusual beings and form only a very small part of the great army of sinners.

Why is it that children born of good Christian parents and carefully raised in homes where everything is done to lead them to the right way of living so often go wrong? In many cases the beginning of their downfall comes from being too amiable, too willing to yield to the suggestions made by others, too anxious to be known as good comrades.

That strength of character which gives them courage to say, "I will take no part in this or that pleasure unless I know it is right all the way through," and keeps them sturdy in their determination, often loses for young men their most congenial companions. It is so much easier to go with the crowd, to be a good fellow and not oppose what others in the party are planning. So easy to yield and say, "Why, there can be no harm in playing cards just this time, even if there is money at stake," or, "Just one glass of wine will not hurt me, and I will never again touch it." And then comes the beginning of a blighted career, a step downward that it is impossible to retrace, and the amiable, whole-hearted young man has started on a life that leads to destruction, and often crime.

What has started all this distress? Just a yielding spirit, just a lack of strength to say "No" and mean it. All of his early training counts for nothing if the young man or woman cannot say "No" and yields to the first temptation. The second yielding is far easier than the first.

Be strong, be brave, stand for what is best and truest in life. Have the courage to oppose suggestions that are not in accordance with your own ideas of right and wrong, and do not yield to temptation. A. S. T.

Worth Remembering

Love is ownership. We own whom we love. The universe is God's because He loves.

Selfishness is that detestable vice which no one will forgive in others and no one is without in himself.

"I can forgive, but I cannot forget," is only another way of saying, "I will not forgive." A forgiveness ought to be like a canceled note, torn in two and burned up, so that it never can be shown against the man.—Henry Ward Beecher.

IN THE BACK OFFICE

A WELL-EDITED paper is a well-BALANCED paper. There has been considerable talk back and forth about devoting the page Mr. Lewis utilizes to a remedy for "punkin" bugs. Much of this talk we have printed in the paper.

That is just the point.

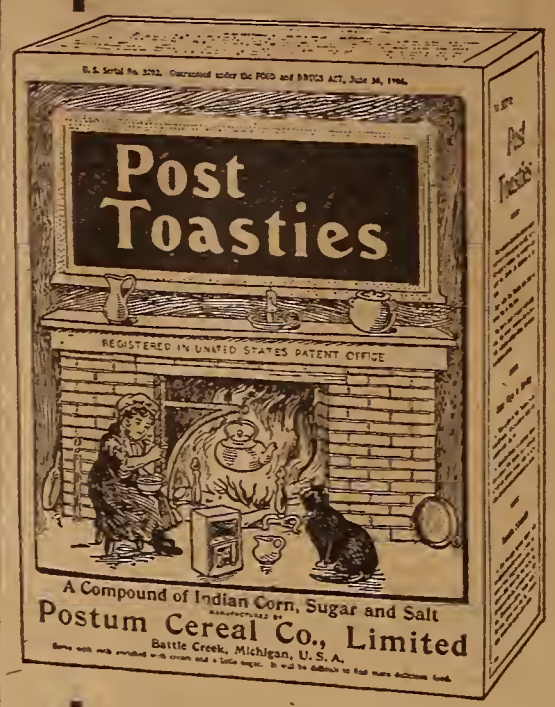
If we are going to please and satisfy all of the half million families that belong to the greater FARM AND FIRESIDE family, we have got to balance the paper intelligently—the cure for "punkin" bugs with the honest discussion of men we have put or allowed to be put in public office.

The first and foremost aim of FARM AND FIRESIDE as we see it is USEFULNESS—usefulness to each member of the household. We don't believe this usefulness should be confined to the sphere of tilling the soil, important as that is, but should include the economic, social and domestic phases of farm life and farm livelihood. Nor do we believe that every page of every issue of FARM AND FIRESIDE should be directly devoted to usefulness. Just as "All work and no play makes Jack a dull boy," so no relaxation from the serious business of life in our reading is very bad business. For this reason we are securing some of the very best stories that have ever been published, and some of the most interesting and amusing anecdotes.

The way you can help us in editing YOUR paper is by cultivating the habit of writing to FARM AND FIRESIDE and telling us frankly your ideas and opinions, what you like and what you don't like.

Appetite Calls

For food which promotes a prompt flow of the digestive juices—in addition to supplying nourishment.



Post Toasties

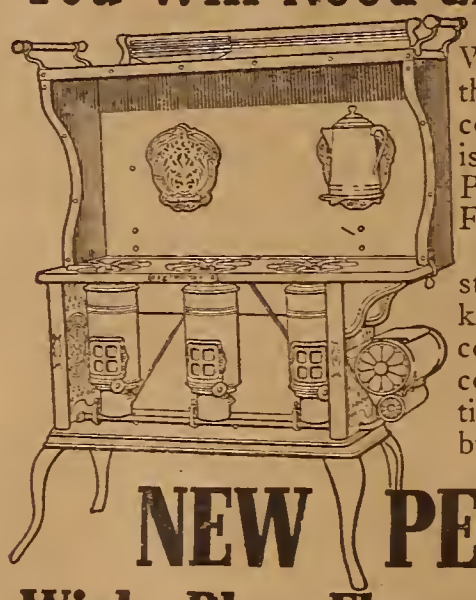
is a most delicious answer to appetite.

It is, at the same time, full of the food-goodness of White Corn, and toasted to a crisp delicious brown.

"The Taste Lingers."

Popular pkg 10c; Large Family size 15c.

You Will Need an Oil Stove

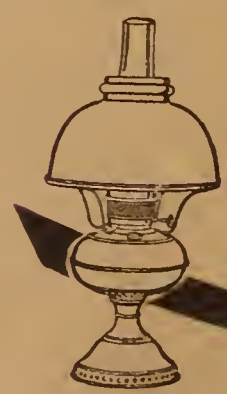


When warm days and the kitchen fire make cooking a burden—then is the time to try a New Perfection Wick Blue Flame Oil Cook-Stove.

Marvelous how this stove does away with kitchen discomforts—how cool it keeps the room in comparison with conditions when the coal fire was burning. The

NEW PERFECTION
Wick Blue Flame Oil Cook-Stove

is the only oil stove built with a CABINET TOP for holding plates and keeping food hot after cooking. Also has useful drop shelves on which to stand the coffee pot or teapot after removing from burner. Fitted with two nickeled racks for towels. A marvel of comfort, simplicity and convenience. Made in three sizes—with or without Cabinet Top. If not with your dealer, write our nearest agency.



The **Rayo Lamp** Just such a lamp as every one wants—handsome enough for the parlor; strong enough for the kitchen, camp or cottage; bright enough for every occasion. If not with your dealer, write our nearest agency.

Standard Oil Company
(Incorporated)

It is to your advantage to mention Farm and Fireside in writing to advertisers. Farm and Fireside folks get the very best attention.

Here Is Something New From Kalamazoo

Prove for yourself in your own home, that the Kalamazoo is the most perfect—most economical—most satisfactory range for you to use—Your money back if it's not.

Send for Catalog No. 153 with special terms and compare Kalamazoo prices with others

Cash Or Time Payments

We want every housewife to know the comfort and convenience of a Kalamazoo in her home. You can buy on **easy time payments** or pay cash if you like. Either way—you save $10 to $20 on any stove in the catalog. We make it easy for responsible people to own the best stove or range in the world.

We Pay the Freight

Kalamazoo Stove Co.
Kalamazoo, Mich.

"A Kalamazoo Direct to You"

EASTERN EDITION

ESTABLISHED 1877
The Illustrated Farm and Family Journal

24 NUMBERS
35 CENTS

FARM AND FIRESIDE

Vol. XXXII. No. 18 Springfield, Ohio, June 25, 1909 Terms { 1 Year, 24 Numbers, 35 Cents / 4 Years, 96 Numbers, $1.00

The Farmers' Fight

The Coöperative Elevator—Part I.—By G. C. Streeter

Some twenty years ago, on the sixth of March, 1889, there were gathered at Rockwell, Iowa, a small number of plain-spoken, clear-thinking, unordinary farmers. This meeting was the outcome of other meetings at which these men had discussed at length some of the problems of the business side of farming. Upon certain points they were fully agreed. They realized that the American farmer did not receive an adequate return for the time, labor, skill and capital invested in the production of his crops. They were imbued with the idea that a system of distribution that gave to the unproducing middleman a greater profit for the simple handling of the product than the farmer received for all his risk, labor and investment in producing it was fundamentally unsound and unjust.

They believed, furthermore, in many cases that the middlemen were absolutely dishonest in their handling of the farmers' products, thus securing dishonest profits in addition to the already extortionate profits of an unjust system. They had grasped one of the fundamental principles, that is operating for the reorganization of industrial society—the desire to eliminate as far as possible the profits of the unnecessary middleman, whose social work is entirely unproductive, as it adds absolutely nothing to the use value of the product that he handles.

As these farmers were grain-growers, the most important question to them was the monopolistic control of the grain trade by the grain trust. They realized that the grain trade of the country was absolutely controlled and dominated by a few men who were able to arbitrarily fix the price paid to the farmers and to absolutely control the grade given to their grain. They saw a few companies controlling hundreds of line elevators and realized that these companies were in league to crush out independent competition and monopolize the entire grain trade.

They were convinced that because of too low prices and of dishonest grades and weights they were each year being defrauded to an extent of several cents a bushel on every bushel of grain that they sold.

They likewise realized the impotence of individual effort to remedy these conditions, and they resolved to organize coöperatively, that with the strength inherent in union and coöperation they might better fight the organized predatory forces arrayed against them, and thus secure for themselves a fairer share of the wealth that they created.

They had met to write the prospectus of the greatest coöperative movement the world has yet seen. These men had little conception of the great coöperative movement they were starting, but with prophetic insight they initialed a coöperative enterprise based on absolutely sound principles and in accord with the laws of economic evolution.

The First Coöperative Elevator

They then and there organized the first Farmers' Coöperative Grain-Elevator Association in America. The primary object of this organization was the merchandising or selling of the grain produced by the members of the association. A charter was secured and a corporation was formed under the laws of the state of Iowa, with authorized capital of twenty thousand dollars. The charter authorized them to engage in the buying and selling of grain and other commodities. They then invited all the farmers in the vicinity of Rockwell to subscribe for stock and become members of the association. Thirteen thousand six hundred dollars' worth of stock was issued. A small elevator was built and the coöperative elevator movement of America was launched upon the business world.

It is not my purpose to tell in detail of the trials and struggles of this pioneer in the great coöperative elevator movement, but when the history of coöperation in the United States is finally written, a prominent chapter must be given to the history of the farmers' coöperative elevators of Rockwell, Iowa, to the foresight, judgment, energy and sacrifice of the founders of this first society. The work of such men as N. Densmore, the first president of the society, of Thomas McManus, of President Brown, of Calahan and Gorman, has been a potent force to advance the interest of coöperation in this country, and it deserves more than the hasty sketch I might give it here.

Twenty Years After

Twenty years later, on the sixth of March, 1909, there was another assemblage of the farmers at Rockwell, Iowa. They had met to reincorporate for another period of twenty years, and among those present at the reincorporation were many of the coterie who helped organize this movement twenty years before.

In spite of struggles and trials, in spite of opposition from the organized forces of the grain trust and the railroads, the Rockwell pioneers had fought their fight and won. It had been twenty years of struggle, and twenty years of success. For in the two decades of their existence they had handled for their members over ten million bushels of grain and added to the profits of that one little farm section more than three hundred thousand dollars on grain alone. Every provision of the prospectus written twenty years before had been fulfilled, and to-day the record of the Rockwell association is the history of achievement in successful economic coöperation.

Two days before, on the fourth of March, more than two thousand delegates representing twenty-five thousand farmers who are members of over two hundred and fifty Farmers' Coöperative Elevators in the state of Illinois, were gathered in the city of Decatur to attend the sixth annual convention of the Farmers' Elevator Association of the state of Illinois—two thousand enthusiastic advocates of the Farmers' Coöperative Elevator movement who were gathered to intelligently discuss the problems of the American farmer. They were men who had tried and had proved coöperative methods and were discussing ways of extending the scope of this great movement.

Truly in twenty years the movement has made great strides.

During the preceding year the coöperative elevators of Illinois handled sixty million bushels of corn alone, and a careful comparison of prices showed that at shipping-points served by Farmers' Coöperative Elevators, the farmers received an average of two cents a bushel more for their corn than other farmers who sold at shipping-points monopolized by the old-line elevators.

A Busy Day at a Farmers' Elevator in Hartford, South Dakota

Two cents a bushel on sixty million bushels of corn means an increase of one million two hundred thousand dollars in price, and consequently that much more profit for the grain-growers of Illinois. That one million two hundred thousand dollars is the result of intelligent coöperation.

The Reason Coöperative Elevators Succeed

The reason for the rapid growth of the Farmers' Coöperative Elevator movement is easily found. It has been demonstrated time and again that whenever a band of farmers unite, organize an elevator company, build an elevator and begin to buy grain, the price of the grain marketed at that point advances from two to six or even seven cents a bushel. A comparison of prices at points served by old-line elevators alone and points served by Farmers' Coöperative Elevators proves that the farmers who are obliged to sell their grain at points where there are no coöperative elevators receive from two to seven cents less a bushel than those who are within reach of the Farmers' Coöperative Elevators.

The establishment of a coöperative elevator not only raises the price that the members of the elevator companies receive for their grain, but it raises the price of every bushel of grain tributary to that market, because it forces the old-line elevators to pay the highest price that the conditions of the grain market will allow, otherwise they get no grain.

The Object of the Coöperative Elevator

The object of the coöperative elevators is not primarily to make money for the stockholders. The object is to secure a fair and honest price for the grain crop. Consequently, the policy of the coöperative elevator is to pay the highest possible price and still make sufficient profit on handling the grain to pay the bare expenses of the most economical management.

Overbidding the Market

In many places the establishment of a coöperative elevator at a shipping-point has resulted in the payment of fictitiously high prices for grain, as in many cases the competing-line elevator pays prices that are much higher than the market justifies in order to secure the grain and to prevent the farmers' elevators from buying grain, hoping thereby to make the stockholders in the coöperative elevators dissatisfied.

In the past it has been a comparatively easy matter for the old-line elevator companies to overbid the market because of their control of a long line of elevators in a given territory. In order to make a profit it was only necessary for them to buy at an *average price throughout the whole territory*. It was an easy matter for them to lower the price of grain an eighth or a quarter of a cent a bushel at twenty or thirty stations where they had no Farmers' Coöperative Elevator competition to give them a profit of several cents a bushel that they might overbid to secure the grain at points where the farmers had a coöperative elevator. For example, let us suppose that the elevator trust controlled all the elevators at some twenty shipping-points, and that their price for wheat is sixty-five cents a bushel at these points. A farmers' elevator is opened at one of these points. The manager of the farmers' elevator finds that the price that he can get in the terminal market justifies him in paying sixty-eight cents a bushel. It naturally follows that every bushel of grain marketed at that point will go to the farmers' elevator unless the trust elevators raise their price. To get any grain at all they will have to pay at least sixty-eight cents a bushel, because everything being equal, the grain-growers will sell to the farmers' elevators. In order to continue to get the grain at that point

[CONCLUDED ON PAGE 4]

A Wood and Concrete Silo

A Plan by Which the Farmer Can Construct His Own Silo

The silo has become a necessity for the dairy farm and a valuable adjunct to every farm where the best methods of feeding are used. The one problem in the mind of the average farmer is to decide what kind of silo can be constructed at the least cost and without skilled labor, yet give satisfaction as to appearance, usefulness and durability.

In this regard the all-wood silo, with the constant need of repainting every few years and a gradual deterioration in usefulness until it becomes necessary to replace with a new structure, makes it the most expensive at the best.

The concrete-block silo is excellent as regards durability and use, but the first cost of construction, together with the fact that skilled labor is almost a necessity, does not commend it to the farmer who is looking at the first cost.

A large number of silos have been constructed on the lath-and-plaster principle; but as this is rather a haphazard method of construction, one that cannot be assured of permanency, its use does not find favor with experienced concrete-workers. The very fact that mortar that is not waterproofed is easily permeated with moisture, which tends to weaken it when spread to the thickness of plaster on lath, shows any one that the action of the elements on this thin coating of mortar will destroy it, thus causing a cost of repairing equal to the wood silo.

Advantages of Wood and Concrete Construction

The half-timber style of silo illustrated and described in this article has all the advantage of permanency and usefulness as given in the concrete-block or monolithic-wall silo, yet is so easily constructed that it is possible for any farmer to build it without skilled labor.

Another advantage is the reduced cost; the walls have an average width of four inches, in comparison to eight to ten inches of the block silo and six inches for the monolithic wall, the mortar is nearly one third less in cost, as an aggregate of cinders (steam ashes) is used, which makes a light wall and one that makes a perfect bond with the outside and inside coats of cement plastering. This mortar has been used in residences in certain cities in Germany, proving its durability by over forty years of practical use. The strain or weight of the structure falls upon the framework, which is rigidly braced, and by this system of reinforcement makes a wall that is superior in strength to a plain wall of ordinary concrete.

Aside from the lumber used in the frame, very little false work is required. The short boards used to mold the wall between the studding are placed above each other as fast as the wall rises and is sufficiently hardened to allow the bottom boards to be removed.

The size is an important item, so I will describe two sizes to meet the needs of the average farmer. A silo twelve feet in diameter, inside, and thirty-three feet in height will hold approximately three thousand bushels of ensilage and is a good size for the small farmer. A diameter of fifteen feet, inside, will hold forty-seven hundred bushels on a conservative estimate. From these figures the farmer can easily secure a correct idea of the size needed for his use, and change the measurements given for the framework accordingly.

Construction Details

In ordinary soil, if the floor is to be below the ground level, excavate to a depth of five feet and with a diameter six inches greater than the diameter of the silo. Build a wall of concrete around this to the ground level of a width of ten inches, using a mixture of 1 : 2 : 4 concrete—that is, one part of Portland cement to two parts of fine sharp sand and four parts of broken stone or gravel. Where the gravel from the pit is of about this grade and free from dirt, a saving of time can be accomplished by using a mix of one part cement to six parts pit-run gravel. This mortar should be solidly tamped into the forms for the wall, and care should be used to see that the top is smoothed off so that it will be perfectly level.

Now fill the bottom with mortar, into which embed small stone to a depth of two feet; as many stone may be used as the mortar will cover, up to within four inches of the top, which is finished with clear concrete mortar, so as to make a smooth floor for the bottom of the silo. This places the floor of the silo three feet below the ground level, which reduces the height of the structure above that much, although the floor may be level with the ground if so desired.

For the sills and plates or caps, two-by-four lumber may be used if the foundation wall is extended above the ground, so as to embed the sills as well as the bottom end of the studding in the mortar, thus making them secure against all strain.

For the twelve-foot silo, using two-by-four-inch lumber, cut the sills and plates three feet six inches long. At each end, on one side, make a miter cut one inch in from the end. Now make on each end a halved joint, two inches in from the end, as shown in Fig. 2, so as to fit together in the polygonal shape demanded. These are nailed together as illustrated, ready for the studding to be erected. For this size of silo you will be required to cut twelve pieces for the sill and the same number for the top plate.

For a silo of a diameter of fifteen feet the sills are cut three feet five and two thirds inches long, with a miter cut at each end of five sixths of an inch in from the end and a halved joint made as for the other size. For this size fifteen sills and fifteen plates are needed.

The studding are made of two-by-four-inch lumber thirty feet long (or spliced to make that height). These are placed in each corner of the sill, as shown in the illustration, with the foot of the studding even with the line of the joint in the sill; this requires twelve studding for the twelve-foot silo and fifteen studding for the fifteen-foot silo, as they are placed at a distance of about three feet apart, which is the correct distance to employ in this method of construction, as otherwise the frame could not be braced rigid enough.

Before erecting the studding, cut notches on one side at a distance of two feet apart. Have these about one half inch wide and deep, in which to place the reinforcing wires, to brace the framework.

The studding are now braced laterally with two-by-four pieces cut to fit between them, and placed at the top and bottom and also at distances of about three feet six inches apart, with the braces on each third studding between those on the other two, as shown in the illustration. These are cut, for the twelve-foot silo, at a length of three feet two inches, with

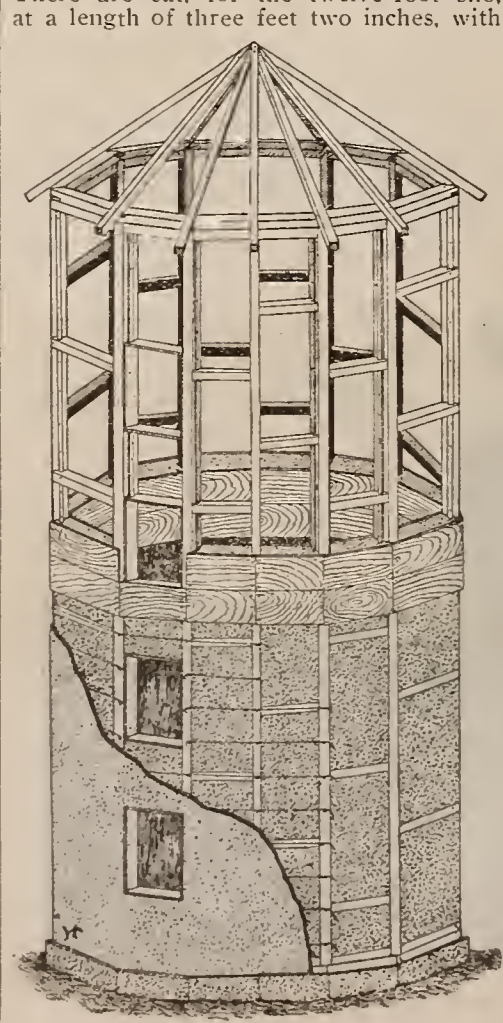


Fig. 1—Plan of Construction

a miter cut at each end one inch in from the end. One hundred and twenty braces of this size are required.

For the fifteen-foot silo the braces are cut three feet one and two thirds inches long, with a miter cut at each end, of five sixths of an inch in from the end on the one side only. This requires one hundred and fifty braces for this size if placed three feet six inches apart, with one at the top and bottom, between the studding. By placing the braces in this manner it will be easier to nail from each end, or fasten with bolts, which would of course be the better way.

The top and the bottom of the window-frames are cut from one-inch lumber of the same size as the lateral braces, and when fitted with the upright part of the frame, fit exactly between the studding on the side of the silo desired, the width of three feet with a height of three feet six inches makes the opening of the proper size for ordinary use. The number of windows can be arranged to suit your wishes.

Rigid Bracing is Necessary

When the studding are in place, brace with the wire reinforcement in the notches you have cut in the studding for this purpose. Use two strands of No. 9 wire twisted together, and draw as tight-

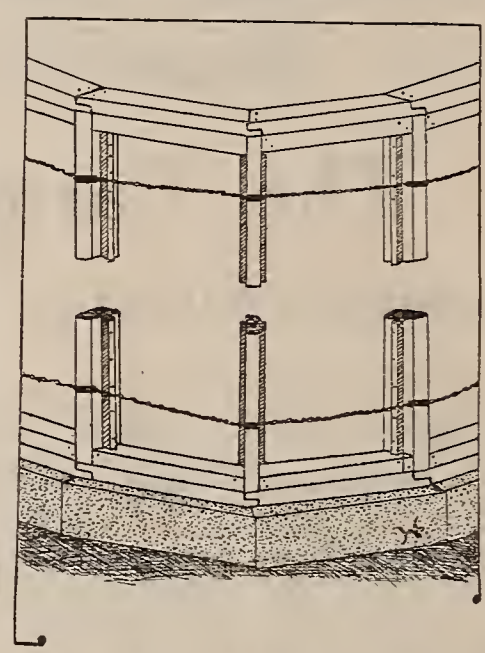


Fig. 2—Detail of Plate and Sill Construction

ly as possible around the frame on the outside, joining together securely. Have the wire lay in each notch so as to be below the edge of the studding. This can be stapled there, to make more rigid, if so desired. The method of placing the wires is shown in Fig. 2.

For the twelve and fifteen foot silo these fifteen strands of wire will be ample for the strain if properly secured, but for larger sizes the number of strands of wire should be increased.

For the molding-boards, cut for the inside a number of twelve-inch boards thirty-eight inches long, and nail lightly at the bottom between each studding. For the outside cut the boards forty inches long, and nail in the same manner, so as to be easily removed by pulling out the nails, which are driven in just enough to hold the boards in place.

Before the molding-boards are put in position, nail to the inside of each studding, on both sides, as well as to each side of the lateral braces, a one-inch strip exactly in the center of the studding or brace. This holds the mortar in place and also prevents any crack between the wood and the mortar by the shrinkage of concrete as it dries. The position of this strip is shown in the illustrations.

Mixing the Cinder Mortar

This mortar is what makes the greatest reduction in cost of the work, and at the same time makes a frost, fire and moisture proof wall and one that has all the durability of the heavy sand-and-cement mortar.

Where the frame is reinforced so as to bear all the strain the structure must endure, this mortar is perfectly safe and will last fully as long as any other, with the great advantage of costing from one third to one half less.

In mixing, a safe rule to follow is to place one wheelbarrow-load of sand upon the mixing-board, spread it out over the board, and use two sacks of Portland cement. This is mixed thoroughly, then six wheelbarrow-loads of clean cinders are added. This is mixed thoroughly, and then wet, so as to make a soft and plastic mass. All large lumps are broken up with the shovel, so as to make the mortar as evenly mixed as possible.

This mortar is then filled into the spaces between the studding, and tamped down until the space is filled. Care must be used to fill evenly up to the bottom of all the lateral braces, so as to leave as small an opening as possible when the mortar sets, as this mortar will shrink from one eighth to one fourth of an inch.

In ordinary weather this mortar hardens quickly, so that the bottom boards can be removed and placed at the top, and thus only a few courses of molding-boards are required.

Finishing-Coat

As soon as the mortar filled between the studding is hardened, the silo should be plastered outside and inside with a coat of one part Portland cement to two parts of fine sharp sand, and reinforced with wire. This is placed by starting at the bottom and driving nails into the studding, overbinding with No. 18 wire entirely around the silo, at a distance of about five inches apart, the entire height of same, both outside and inside. This wire should be tightly stretched, so as to lay close to the wall, yet not touch it.

The mortar coat is plastered on with a trowel, the same as ordinary plastering. This will be easier to apply if not made too wet, and by starting at the bottom it is stroked upward, spreading the mortar to a thickness of one half to three fourths of an inch, and then smoothing when the mortar has started to set.

Where it is desired to use no wire reinforcement and to have the finishing-coat as thin as possible, you can secure excellent results by mixing equal parts of Portland cement and fine sand to the consistency of paint, and applying with a whitewash-brush. It will be necessary to give several coats of this mixture, but it makes a very smooth wall and one that will give a moisture-proof surface. An added advantage is that it is cheaper than the plaster coat, although not as strong as when the reinforcing wires are used.

As very little material is required for either coat, this does not add materially to the cost of the construction.

Roofing

The cut of the rafters depends upon the style of roofing used. To use a concrete roof of monolithic construction, a rise of four feet on a twelve-foot silo is ample. This would require that the rafters be cut eight feet three inches long; the plumb cut will be three inches in from one end, and from the lower edge of same to the foot cut will be seven feet six inches, which will give the eaves a projection of six inches. The four main rafters are erected as shown in the illustration, and the jack-rafters are cut three inches shorter, with the same plumb and foot cuts and with a side or cheek cut, so as to fit against the main rafters to which they are nailed, one on each side. This requires twelve rafters for a twelve-foot silo, so that each corner of the polygon gives the same angle to the eaves of the roof.

After the rafters are in position, brace each of the main rafters with lateral braces, so as to make them secure, and then on each side of both main rafters and jack-rafters nail a one-inch strip, two and one half inches below the top edge of the rafter, the same as for the studding and braces on the side wall.

Cut the molding-boards to fit into the space between each rafter, resting on the one-inch strips, and with strips at the bottom edge of the eaves you are ready to fill with the cinder concrete. Fill even with the top edge of the rafters, or to a depth of one and one half inches. As soon as this has hardened, cover the entire roof with wire netting, stapling it to the rafters, and by using the kind that is one foot wide the laps can be easily made. This gives a strong reinforcement to the roof in all directions and makes it everlasting.

The roof is then finished with a coat of one part Portland cement to two parts sand to a depth of three fourths to one inch, and smoothed down with the trowel, using care to have of this depth over all rafters.

The boards are left in position to support the roof, except those at the eaves, which can be replaced with a gutter or any cornice you may wish to add for ornamentation.

Of course any other class of roof desired may be used, but for cost and lasting qualities this will appeal to the builder who may want the best at the least expense.

The one great advantage in this class of work is the low cost, which will average from one third to one half less than any other class of concrete construction and will also be less than the cost of a wood silo in first cost at the usual prices for lumber and the necessity of skilled labor in building.

This practical method of building should solve the problem for the farmer who desires a substantial, fire, frost and damp proof building and one that can be erected at a less cost than any other used for this purpose.

A. A. Houghton.

Around the Farm

Items of Interest and Value to the Progressive Farmer

After Corn is On the Way

"THAT corn ought to do well. It has good feed!" Looking over the fence at the piece of corn we were passing, it did not take me long to make up my mind what was in the mind of the farmer who made the above remark. The corn was well up. Evidently there had been a "good stand," as the farmers say, by which they mean that as a rule the kernels of corn planted have come up, so that there are few missing hills. But between the rows— Whew! There was a situation! Grass and weeds galore! From indications it did not appear as if the man whose business it was to attend to that field had done anything like his duty. Surely the feed was good, provided it was the kind of feed the corn-plant needed.

"Maybe the man is sick," I ventured.

"I wish he were! No, I don't mean that." My friend hastened to correct himself. "What I mean is, I would have more patience for him if anything really were the matter with him."

"The weather may have been unfavorable."

"Worse than that. Let me tell you. That man will break himself down before he lives out half his days. He has so much to do. I went down there the other day, and do you know, he did not fairly straighten up to look at me. When I came up, he kind of glanced up out of the corner of his eye and went at it again, hammer and tongs. No time to speak a kindly word. Under the harrow from morning till night. Not a minute to let the kinks out of his back or get a bit of peace out of life. It isn't right. You see it; the corn shows it; the man feels it; and yet he doesn't know what to do."

"What would you do?"

"I know what I would do. I would do a little less and live while I did live."

"A man hates to let go."

"Well, I am not going to preach a sermon now. You don't want to listen and I haven't the heart to think it through. But what does that corn-field need?"

"You tell."

"It will be a big chore to straighten it out now, won't it? The chances are it never will be cleaned out. When it comes to harvesting, the barn-grass will be so thick it will tangle a fellow's feet, and the corn—well, there won't be much to speak of. Good ground, too. I'll tell you my way of keeping up with corn. You know corn is a plant that grows fast while it does grow. You can't sit down and watch it very long; if you do, it will get the start of you, and so will the weeds. They beat the corn if you give them half a chance.

"You need to begin early. If you have done a good job plowing and harrowing, the chances are you will not have so much trouble afterward. Many of us are in too big a hurry to do this part of the work right, though, so that before there is any show of corn the weeds begin to put in an appearance. Just the minute you can see the rows, start the horse and cultivator is my rule. I used to go over it with a weeder before the corn fairly was up. With some fields this is a good plan. In other cases better not do it. I don't know as every farmer understands it, but the seeds of weeds that are covered with about two inches of earth and left there will not be very apt to spring up. If you dig them up with the weeder or cultivator, you make business for yourself right along. So let them alone if you can. When you go over the corn, use the cultivator that will go light and just stir the surface a bit, breaking the soil around the hills, so that they can push up through the crust easier. That helps.

"We need to keep the cultivator going all the way along till the stalks are so tall we cannot get the horses through. Then, even by using a short whiffletree and checking the horse up pretty well, we can get through a time or two more.

"I like to raise corn. It is one of the best crops we have. Don't you think so?"

Surely my friend is right, but it is a crop that demands good, faithful work on our part. It cannot be neglected if we will have a good harvest.

E. L. VINCENT.

The Farm Wood-Lot

WHILE only one generation from the time when the finest of our hardwood forests were considered an encumbrance, to be got rid of as rapidly as possible, we can hardly realize how very small a remnant of those forests is left in anything like the early condition as regards stand or quality of trees. However, there is yet to be found on most Ohio farms an apology for a forest in a piece of land that does double duty as a pasture and wood-lot.

There are some people who yet laugh at the idea of Ohio being short on timber-supply or that the next few decades will find us in the midst of a timber famine, so far as our home supply goes. And yet such is surely the case if the present management of Ohio woodland continues.

This statement is capable of mathematical demonstration in many instances, and even as a rule. To illustrate, a neighbor has ten acres in timber, containing four hundred grown trees, without a single young seedling coming on to take their place, because closely pastured. His needs for fuel and timber for farm purposes require at least twenty of these trees to be harvested each year. Now, the life of this wood-lot is reduced to a simple division of twenty into four hundred, when there will be one more Ohio farm without a wood-lot.

We believe the farm wood-lot is almost indispensable to any farm, and if rightly managed it will be the source of supply for all the needed fuel, the posts for all fences on the farm, the timber for the new barn or house, and boards for gates and for all needed repairs about the buildings. So it becomes not only a great convenience, but a very valuable asset of the farm as well.

To have a wood-lot thus valuable it is necessary that there be a succession of trees coming on of all sizes, from the seedling to the grown tree that is ready to harvest, and that there be sufficient variety to fill all the needs of the farm, from post timber to finishing lumber for the fine house; and we believe that the average farm wood-lot, if rightly managed, will do all this with a not very large outlay in money and labor.

We as farmers have learned that it is becoming more important each year that we apply business principles to our farm operations. When we are ready to apply these same business principles to the control of our wood-lots, they will become what they were intended to be, a possession that we can use each year as long as we live, and leave not only unimpaired, but much more valuable, to our successors.

HORATIO MARKLEY.

Double Crops

DOUBLE crops mean double profit. Besides, they deal death and destruction to weeds. Also, they are of great assistance in keeping the soil in prime shape—mellow and easy of cultivation.

These conditions naturally tend to promote rapid growth and productiveness of vegetation to a much greater extent than do single crops.

Either cane or millet is a safe and profitable crop to sow in the potato-field when you lay the plants by. Usually this can be done in June, and the second crop will be in no danger of frost.

Dollars may be doubled on wheat-stubble by plowing and sowing to rape, as much as is needed for sheep and hogs.

Turnips for stock, for market or for family use may be had in great abundance through the small effort of scattering turnip-seed among the corn after laying it by. These grow best if sown just before a rain, the drops of water serving to cover the little seeds and to start them to growing.

The oat-field presents the greatest opportunity for double crops in one season. Early oats may be mowed in June, just as they finish heading and are still "in the milk." Allow them to cure thoroughly, then stack, and you have one of the finest of winter feeds. Stir the stubble as quickly as possible, harrow, and plant to ninety-day corn. There's a prospect of a second crop of sound corn, and if not that, the fodder will pay you tenfold for your extra labor. Or, if you prefer, cane, Kafir-corn, millet, rape, etc., may be sown in the place of planting the corn.

At any rate, make some parts of your farm pay these double profits, bearing in mind that a little extra fertilizer is necessary in order to withstand the double drain on the strength of the soil.

M. A. COVERDELL.

Plant a Patch of Sorghum-Cane

SORGHUM-CANE yields abundantly when planted on good ground, and if one does not wish to work it up into molasses, he will find it very profitable as a feed for all kinds of farm animals. Even if a person has an abundant supply of corn-fodder, it will be well to have a patch of sorghum-cane for a variety of feed.

Sorghum may be planted after the corn has been put in, for it is not best to plant it before the soil is warm. The ground should be thoroughly prepared, as the seed is small. A patch of sod broke early and thoroughly disked and harrowed down at seeding-time will make a good seed-bed for sorghum. Unless the soil is very rich, it might be well to add some fertilizer before plowing-time, as a large yield is desired if it is to be used for feed.

Some farmers sow the seed broadcast, and cut the crop with a binder when it is about waist-high. The crop may also be planted in rows with a common corn-planter with drill attachment. A few quarts will drill an acre. When grown in rows it is easier harvested. A corn-binder can be used to advantage at cutting-time. The argument for sowing broadcast is because of the greater yield.

When sowing sorghum broadcast, from eighty to one hundred and twenty pounds of seed to the acre can be used, for the fodder will grow much finer and there will be much less waste when it is fed. The seed may be covered with a disk to the depth of two inches. If the season is very wet, it will do well covered to a depth of an inch.

W. D. NEALE.

Cultivating Corn

THE doctrine of shallow cultivation has been pretty generally adopted, but there are still those who believe that the cultivation should be deep and that it is all the better if the corn-roots are broken. They do not seem to realize that if the roots are broken, the plant is wounded and the feeders destroyed.

The leading objects of cultivation are to conserve moisture, destroy weeds and keep the surface level and smooth. If weeds are allowed to grow without interference, the corn crop will be an entire failure. If the surface is not broken after the corn is planted, the yield will not be good; if many of the corn-roots are broken, the yield will be reduced, so the best cultivation destroys the weeds, prevents the surface from crusting and helps to prevent evaporation, except as the moisture goes through the corn-plant carrying plant-food and distributes it through the plant, while the surplus moisture escapes from the surface of the leaves.

Frequent shallow cultivation is most effective in keeping down weeds, since the young weeds are destroyed, and as fresh seed from the deeper soil is not turned to the surface, the seeds in the under soil remain dormant and do not damage the corn crop.

The Illinois Experiment Station conducted a five years' experiment, in which one plat was cultivated two inches deep, another four inches deep, and in another the weeds were removed by scraping the surface with a sharp hoe without breaking the crust of the earth. The average results per acre were: Deep cultivation, sixty-six bushels; shallow cultivation, seventy-two bushels; scraping surface with hoe, sixty-eight bushels.

During two years, where the weeds were allowed to grow, there was no corn obtained. From this experiment it seems that the most important object in cultivation is the destruction of weeds.

The New Hampshire Station got the following results per acre from deep and shallow cultivation: Shallow ordinary cultivation, 70.3 bushels; deep ordinary cultivation, 66.7 bushels; shallow frequent cultivation, 72.8 bushels; deep frequent cultivation, 64.5 bushels.

From this experiment it is plainly shown that frequent deep cultivation not only does not pay, but there is a loss of 8.3 bushels an acre when compared with frequent shallow cultivation. The smallest yield is from the plat which had the most labor expended upon it. This is a strong argument for judicious direction of labor, and when the labor is directed in the most economical way it will go a long way toward solving the farm-labor problem.

Experiments seem to indicate that there is no advantage gained from cultivating corn after it has attained a height of from three to four feet, provided it is free from weeds, and if the cultivation is kept up to this time there will not be many weeds in the corn.

A. J. LEGG.

Hauling Wheat

This shows how the Pacific coast people economize in farm labor. In this team of six animals and two wagons there is but one man to the outfit engaged in hauling wheat. It is customary in California where roads are level to hook up as many as twenty mules to a train of connected wagons, as many as the team will haul, all driven by a single teamster, who does the loading and unloading. A single driver holds the reins over big teams in plowing and cultivating and in hauling or freighting many different commodities.

At Harvest-Time

Cutting and Curing the Hay and Grain Crops

Handling the Hay Crop

THE command to make hay while the sun shines means a busy time with most of us, and the man who has everything ready and his machinery at hand will accomplish a great deal in a short time. Making preparations in advance for the harvesting of the crop results in a much more satisfactory haying season than would otherwise be the case.

Before haying-time arrives it is a good plan to go over the machinery to be used in harvesting, and see if it is in proper condition. When the mower is examined, in many instances it is found to be unserviceable. Repairs of all kinds are needed. It sometimes happens that extras must take the place of worn-out portions of the machine. It seldom happens that these can be secured without ordering them from the factory, and days and sometimes weeks elapse before the extras are received and become a part of the machine.

The time to cut clover for hay is when the plant is in full bloom; or, in other words, when one third of the heads have turned brown. At this stage it is about eighty per cent water. It cannot be stored safely if it contains over twenty-five per cent, so the problem of curing clover properly is simply that of evaporating the difference between eighty per cent of water and about twenty-five per cent, or reducing the water content to twenty-five per cent or less.

The Problem of Curing Clover

In order to do this quickly, or in from twenty-four to thirty-six hours, it must be done through the leaves. Before the clover is cut there is a constant stream of water passing through the stem and out at the leaves. As soon as the stem is separated from the stubble the supply from below ceases, while the evaporation from the leaf continues as long as the leaf itself has life in it. In order to secure this quick evaporation, air must have free access to the leaves. Hence the problem of curing clover is to keep it in as loose form as possible.

Where the crop is heavy and the sun hot the leaf structure of the upper part of the swath is often killed, as is shown by the leaves becoming brown or black, while the leaves in the under part of the swath are scarcely changed in color. Hence the value of the tedder in lifting the swath and allowing free access of the air. Unless this is done, the clover is sunburned; and if the leaf structure is killed before the sap is out of the stalk, it is impossible to make good hay, nor can the curing be done in any reasonable time.

It is impossible to cure clover hay during damp, muggy weather. It is, however, an easy matter to cure it in clear, sunshiny weather with a fresh north or northwest wind. In fact, it is easy to cure clover hay if the atmosphere is very dry, with sunshine and any sort of a breeze. The problem, therefore, is to keep the clover so loose that it is quickly converted into hay by the evaporation of the moisture through the leaf and before the leaf structure is destroyed by the hot sun.

With good weather, clover, in the condition above described, can be cut one evening, tedded or put in small windrows before dinner the following day, and hauled in during the afternoon.

Where one has only a few acres of clover, probably the best method of handling it is to cut and allow it to wilt, put it in cocks, then cover it with a hay-cap and let it go through the sweating process in cock. This is not practical where there is a large acreage, however.

A good many farmers, when rain threatens, make the mistake of putting their hay in windrows. It should be remembered that clover will suffer less injury from rain, even when dry, lying in the swath than it will if put in a windrow or even in small, loosely built cocks without covering. I have seen many farmers hasten, when rain threatened, to put their hay in cocks, only to have it wet through to the bottom; and I have never seen any good hay come out of these cocks after they were shaken out.

When Should Timothy Be Cut?

Timothy is at the best stage for cutting when it is in first bloom. If I have a large amount of grass of the same grade to harvest, I begin a little before the best stage for cutting, so as not to lose from being overripe. If the day is bright and breezy, I proceed much as follows: I start the mowing-machine about nine o'clock in the morning, and stop the same as soon as I think there is sufficient grass cut to handle during the day. If, however, I have any suspicion of foul weather, I stop the machine before I think there is half enough down, as I had rather get in one or two loads of good hay thoroughly well made than to have twice the quantity spoiled with a rain shower. I start the tedder in about one hour after starting the mower, following around the field the same direction after the mower. If the timothy is very heavy, it is given a second tedding, going in the opposite direction. Then about noon I start the rake, and about an hour later I commence to haul to the barn and clean up the last swaths before seven o'clock in the evening. After the hay is in the barn, the barn is tightly closed at night. There is no danger of heating or molding in the mow if the timothy is cut when the bloom is on the head and mowed away without any rain or dew on it. The hay will come out in the winter bright green in color, and it will be worth almost as much to feed, and the stock will relish it almost as well as the grass it was made from.

I have found that there is a good deal in arranging machinery to work together. A tedder works better if it takes just two swaths of the mower, and a rake is more satisfactory when it is wide enough to gather in three swaths. This, of course, requires two horses, but it pays, because hay must be handled quickly.

The Methods Used With Alfalfa

The proper time to cut alfalfa is when it is from one fourth to one half in bloom, provided there is good weather for curing it. When the usual time for harvesting the crop approaches, it begins to prepare for it, as though it were a foreseen event, by throwing out buds near the root, thus forming a crown. If the alfalfa is cut before it has prepared itself by throwing out these buds or new shoots from the root, it will not do anything in the way of growth until it has time to start these shoots. That may be a matter of a week or ten days. Meanwhile weeds will fight for possession of the land, and therefore, if the alfalfa is cut too early, there will inevitably be a short crop following.

On the other hand, if it is let go too late, the plant will throw its strength to the shoots and the main stalk will begin to crinkle down. It will go on and produce seed, but a seed crop detracts very much from the crop that is to follow.

There are two ways of handling this crop. One is to cut it at the time above specified, allow it to wilt, put it in cock, then cover with a cap and let it stand a few days. Then on a clear day remove the cap, open up the cock, air it and sun it and then put it in the mow.

The other method is to cut it in the evening or early in the morning after the dew has dried away, and put it in small windrows. Then when by taking a wisp of it and twisting it hard no moisture can be seen on the outside, it is ready to be put in the barn.

The first is the safest way, so far as the present crop is concerned, but the objection is that if the cocks stand on the ground more than a day or two the alfalfa underneath will be killed and the field will be badly spotted.

Alfalfa is no more difficult to cure than clover, provided there is the same amount of heat, wind and sunshine. In fact, it is scarcely as difficult. Whatever method is adopted, the great object in curing alfalfa is to preserve the leaves; and it should not be allowed to stand until after the leaves begin to fall, which they will do shortly after the new shoots from the root are an inch or so in length. The greater part of the nutriment in alfalfa is contained in the leaves. These are worth considerably more than their weight in bran. The stalks have considerably less nutriment.

Caring for hay so as to avoid as much waste of its feeding value as possible is a matter of considerable importance. Every year there is a large amount of hay stacked outdoors and allowed to take all kinds of weather. When it is thus cared for there is a continuous waste because of the large amount of surface exposed in the stack. This is especially true of clover hay, because it does not turn water readily. Then, too, there is waste from having stacks partially opened, and in the spring especially waste from stack bottoms being wet. In order to prevent this waste it is very essential that the hay be kept under cover until it is consumed. WM. H. UNDERWOOD.

Harvesting Wheat and Oats

THE best time to cut wheat and oats is when the straw just below the head and above the last leaf is a golden yellow, the grain at this time being in the hard dough stage. If cut before this stage of ripeness has been reached, the grains will shrivel, and there will be many light kernels which will be cleaned out and lost. On the other hand, if allowed to become overripe or dead ripe, the amount and quality of the flour, as well as the germinating power of the grain, are reduced, though the greatest loss, due to overripeness, is from the shelling of the grain.

The grain should be shocked as fast as cut, twelve bundles being placed in a shock. Small bundles are best, as large ones do not dry out as readily and are heavier to handle. In making the shock, the first four sheaves should be set squarely opposite each other, solidly meshed together at the top, but at reasonable angle at the base, so that when the remaining six are added the whole shock will be solid. Then place on two cap-sheaves. If so erected, the shock will be perfectly round and stand braced from all directions, will fully protect itself from high winds, and the grain will quickly cure. Molding during damp weather can be avoided by removing the cap-sheaves on the first sunny day. This is also a good procedure after light showers. The caps should be inverted and laid on the south side of the shock, so they may have the drying effect of the sun.

As to whether the grain should be stacked before being threshed depends on conditions and circumstances. In a community of small farms, where wide diversity of crops is practised, stacking before threshing is to be preferred. By this means the farmer can do a larger amount of his own work without hiring so much help. When threshing is in progress, rain will not cause so much delay as when time must be given for the shocks to dry off. In threshing from the shock, many more teams are required, among them usually being some scary horses, which require extra care and watchfulness, thus detaining the machine.

Where grain crops are extensive, and especially in dry seasons, it probably pays best to thresh from the shock, which means handling the grain once instead of twice. But in wet weather or rainy seasons there is a better chance for each farmer to stack his grain between showers. Thus threshing can go on more rapidly than when the grain is scattered over the fields in shocks, and so much more time is required for it to become fit to haul and thresh. The shocks present a larger area to the rain and do not shed the water and protect the grain so well as properly-put-up stacks.

In stacking my grain I usually put three to six loads in a stack, but the size of the stack depends somewhat upon the size of the crop. Small stacks are more easily built, especially for the pitcher, but large ones shield and protect more grain, and may save time in building, because requiring but one topping out for say double the amount of grain the small stack contains.

Importance of Care in Building Foundation and Top

The foundation of a stack should be on level ground; but if on sloping ground, I build up the lower end or side with sheaves until it is as high or a little higher than the other side, keeping the middle of the stack up level if below the bulge, and slightly oval above the bulge, and regularly laid and bound with sheaves the same as the outside layer. I usually bulge the stacks from the ground up five to seven feet, and outward at an angle of eighty to ninety degrees. Under this bulge the long end of the butts of the sheaves are turned upward. When the bulge is as high as desired (about two fifths of the stack is put under the bulge), then I turn the sheaves. The sheaves are then laid with the slope downward, and the stack is drawn in all around, except not so much at the ends, until the top is put on.

The top is put on when the stack attains a width of only about four feet, depending some on the length of the sheaves. In topping, I first begin at the end farthest from where the threshing-machine is to be set, lay two or three sheaves down lengthways of the stack, then shock on each side of these sheaves two rows of straight sheaves with their heads meeting at the top or middle of the stack, and their butts extending to the outer top edge. These sheaves are placed firmly together, and over them three layers or rows of cap-sheaves are laid. I continue this operation of straight sheaves parallel with the stack in the middle, and follow by the shocking of straight sheaves and caps until the top is completed.

Bins in which grain is stored should be dry and well ventilated. This is especially important when the grain was somewhat green or damp when threshed. Porous drain-tile may be used for ventilators by laying it in line across the bins when partially filled, or filling about them in the form of a chimney. They will absorb much moisture, also admit air into the bins. Dry stove-wood, bricks, posts or cord-wood are excellent absorbents of moisture in bins of damp grain.

W. H. U.

Canvas Caps for Small Grain

IF YOU think it doesn't pay to cap your small grain with canvas covers, consider the following advantages derived from their use:

Assuming that you left the shocks open for a day or two, till the grain was thoroughly cured, canvas caps would prevent all danger of heating and molding.

Wind and rain cannot beat off the grain, nor do birds and insects have access to it, as they do when the grain is shocked and handled in the old, careless manner. Neither will alternate wetting and drying shrivel up the grain and cut down the weight of your product till it is unfit to feed, and unprofitable to sell on the market.

In fact, grain protected by the canvas cover proves so much more desirable as a feed, and increases both quantity and quality for marketing purposes to such a marked degree, that one cannot afford to be without these little canvas caps, which pay for themselves in a single season. M. A. COVERDELL.

The Farmers' Fight—The Coöperative Elevator

[CONTINUED FROM PAGE 1]

the trust instructs its representatives not only to meet the price of sixty-eight cents, but to pay one or two cents more a bushel—a price so high that if the farmers' elevators pay the same price they will lose money on the grain. What is the result? If the farmers do not understand how and why this is done, they become dissatisfied with their own coöperative elevators, and fail to see the advantage of it. Let us follow this case a little further. At the other nineteen points where there are no farmers' elevators, the trust reduces the price paid for wheat to sixty-four and three fourths cents. They are thus making a quarter of a cent more at the nineteen points where they have no competition. If the amount of grain marketed at each point is approximately the same they have an additional profit of four or five cents a bushel that they can use to make up the loss incurred by overbidding the farmers at the competing point. Examples of this kind are too common to need specific illustrations. No man who has studied the grain situation in the section where the coöperative elevators have been established is ignorant of the condition. The result has been unnaturally high prices paid at the points served by the coöperative elevators and cruelly low prices at non-competing points. In other words, through their monopolistic control of the line elevators they have taken from the farmers at one section the funds to fight the organized farmers in another section. Frequently there is a difference of four or five cents a bushel in the price paid for wheat in sections only twenty or thirty miles apart. What is the inevitable result? The farmers find that the *establishment of a coöperative elevator* at any point *increases the price of every bushel of grain marketed at that point.* They often receive more for their grain than the terminal-market conditions justify. On the other hand, the farmers at points out of reach of the coöperative elevators receive less for their grain than they received before the establishment of that elevator. This forces them for their own protection to unite and form a coöperative elevator at their own shipping-station. The establishment of each new Farmers' Coöperative Elevator means that the trust has one less section in which they can extract from the farmers additional funds with which to fight the coöperative elevator movement, and it creates new competition.

Asked and Answered

Questions of Interest to the Practical Farmer

ıe Problem of "Going West"

A NUMBER of persons have written to inquire concerning the West, its advantages as compared with Eastern Central states, and whether it would wise for them to change their places abode. The "West" in which they apr to be especially interested is a strip country well out in the semi-arid and l region, where free or very cheap l is obtainable. It is probable that ıy farm people are studying this same blem and debating the project of seekfree homes in a far-distant country.

his semi-arid and arid "West" cerly has possibilities in home-making, it may be doubted whether it should ce the owner of a farm in the Eastern Central regions to sell out and change residence. In truth, the owner of a n anywhere can scarcely do better ı to continue to be the owner of that n. At times the difficulties which surıd him, especially if he be in debt, seem very hard to bear, but there worse things in store should he set ft upon the uncertain sea of homeing with no definite port in view. e, he can figure a nice profit in sellhis high-priced land, and by going a hundred miles to the westward secure ırger tract for a mere trifle. This in finance has been accomplished essfully many times, but it is a hazıus speculation, nevertheless. The y expense of travel and moving, loss ncome for an uncertain period and ifice of chattel property is quite likely at a large hole in the cash balance so y figured. Then, too, cases are very erous where families have succumbed homesickness and discouragement r a few months of struggle in a new ntry, and have returned to their old es, broken in fortune as well as in it.

ot every farmer, however, is the er of a farm, nor can all of that hope to become landowners in lolies where real-estate values are unduly . In any vocation, if the pathway dvancement seems absolutely barred, advisable to make a radical change, ing to new scenes, new conditions new acquaintances for opportunities h lead to better fortune. So the landfarmer might with good reason seek cality where he could become a land rietor. This is not a suggestion that ıan entirely without means should the "West" under discussion. Such urse would be very unfortunate and to entail severe hardships. With a paratively small sum of money, howand a strong body and courageous t, he should be able to accomplish in West many things impossible in the r settled regions. He should do nothhastily, neither should he trust too h to the blandishments of interested dealers. His own farm judgment ld be his guide. Still, he could not lly divest his undertaking of speculaand uncertain features.

the West many localities long ght to be worthless have developed pected farming possibilities. Large bers of tracts have been brought r fine cultivation by various expets, and of course those who secured ıs therein have prospered greatly. is taking place all of the time and continue to take place for a numof years.

ıere is little to commend in the plan ome, who go West for a year or two ee how they like the country. Such riably return to their relatives with a al tale of failure and regret. A r way is to go without reservation, a determination to stay and suc- Leave no bridges over which to n, for there will come a day during irst year or two when the inclination avel those bridges will be well-nigh istible. EDMUND G. KINYON.

he Short Working-Day for the Farmer

KANSAS farmer would like to know whether a farmer can succeed by ing eight hours a day. That, of se, depends upon the farmer. Some ers cannot succeed by working eighhours a day. Others seem to make s go nicely by working about half time.

a farmer does not worry himself to with details—chores and chores and s—and is not trying to farm more than he can manage easily and thorly, he can make money by workıly eight hours a day. And he will live much longer and enjoy his earnings much more if his work-day is short. To be sure, there are times when he will have to work more than eight hours in a day—in harvest, haying and at favorable planting-time, and between showers in a wet spell. The farmer cannot unionize his farm. He will have to leave that sort of thing to the "labor chiefs" and "walking delegates" and people who are forever striving for fewer hours of labor and higher wages.

One of the most successful farmers I ever knew had his men in the field by half-past six in the morning, quit at half-past eleven, was out again at half-past one, and quit at half-past five. When the men got into the field they began work at once, and never stopped until quitting-time. And they actually accomplished more than any of the neighbors who worked twelve to fourteen hours a day. Another thing: They did their chores thoroughly. Every animal on the place received the best of care, and not a thing was racked up or broken or left out. If any of the tools needed fixing, filing, polishing, bolts tightening, or harness needed riveting, sewing or repairing in any way, there were the tools and bench, and they were fixed. The men always did this fixing cheerfully, and this farmer had less stoppages in the field, less breakdowns and less trouble along that line than any one I ever knew. He never had any trouble in getting the best of help and keeping it.

There was nothing wrong with that farmer. Neither was there anything wrong in the house. Many a time have I seen his wife and the girl swinging in the hammocks before sundown, all their work done and everything fixed as far as possible for breakfast, while their neighbors were just beginning to prepare supper, which was eaten about eight o'clock.

It is in the management. Another farmer I knew, who was considered the leader in his locality, and who made considerable money, was always up at four, and rarely got to bed before ten. He was a hustler, and he made things hum. I worked for him two months and threw up my job. I told him plainly that he was too strenuous for me, and I had to quit because of sheer inability to stand the strain. He said he was sorry to have me quit, but if I could not stand the pressure, that was the thing to do, because he had no use for any one who could not keep fully up with him. We parted the best of friends, but I told him he was going too fast and too far, and that he would go down just when he ought to be getting the best out of life and enjoying his earnings. Sure enough, he did go down with a crash, and he was buried with great pomp and circumstance, and all the tradespeople he dealt with were exceedingly sorry, because he was a good and a cash customer. His widow shook the dust of the farm from her raiment, moved to town, drew a steady and robust income from the tenants on her lands, accumulated a healthy surplus, and now spends her summers beside a cool Northern lake and her winters where oranges grow. Good enough! FRED GRUNDY.

Some Investment Advice

IT APPEARS to me quite plainly that the financiers who advise farmers to invest their surplus in railroad bonds are effectually silenced by the Harriman deals. When a man can gobble up a railroad like the Alton, and without let or hindrance increase its indebtedness forty millions without increasing its earning capacity one cent, it is a right good idea to let railroad stocks and bonds severely alone.

I have many times advised farmers and others who have a little surplus cash to avoid "rubber syndicates," "copper-mines" and gold and silver bonanzas. Now I will add railroad bonds. It may be that these things will be regulated by law some time, but at present there are too many statesmen with fingers in similar pies to expect much of anything in the way of regulation from Congress. The railroads are already soaked with water. If the Harriman fraternity are permitted to work their own sweet will a little while longer the roads will be swamped. There seems to be no relief in sight, so I would advise my farmer friends to stand from under and avoid railroad bonds as they would shun the plague.

The management of the railroads have done everything in their power to wring every penny possible from the farmer, in freight charges, to pay interest and dividends on the water in the stocks and bonds, and the farmer has had to grin and pay it. After a while there will probably be a demand that the water be squeezed out. Then won't there be a howl from the bondholders, and a shriek from their friends the newspapers? Then will "business men's associations" and "leagues" resolute against the injustice, and demand that farmers be squeezed a little bit more, in order that no injustice be done innocent holders of stocks and bonds. It may be just possible that farmers will then stand up and be counted. Let us hope so, at any rate.

F. G.

Soil and Other Surveys

THE United States government has in recent years made (and in my estimation wasted) a great deal of effort in its "soil-survey." Most of us possess but a very vague idea of what this soil-survey means, or what is its ultimate practical object. The ultimate aim of every scientific research made at the expense of the public must be to bring out something of practical value.

The director of one of the state stations the other day asked me in what way I or my neighbor, or any other farmer, was benefited by the information gained from the results of the government soil-survey. I was unable to mention the first thing coming from that source that had helped me in my farming operations, and had to admit that practical farmers have paid, and are paying, very little attention, in a practical way, to this soil-survey of the department.

It is true that there are sections of the country in which certain soils are predominating, and which therefore are particularly adapted to the production of certain crops. Here in western New York, for instance, we have a certain class of strong loams, and experience has taught us that these loams are especially favorable to the production of apples, pears, plums, etc. There are also ranges of sandy soils here on which we have found the peach, the melon and many other garden crops to do remarkably well. We have localities especially favorable to strawberry-growing. But we do not have to wait for the scientists of the Department of Agriculture or for station experts to point out these things to us or to tell us where we should plant strawberries, or peaches, or apples, or peas, or potatoes. In fact, every farmer must be supposed to make his own soil-survey. He knows every acre of his farm, and what that acre is able to produce, just as much as he knows his animals, and what services they are able to render, and he can, or should be able to, plan his plantings from year to year on the basis of this intimate acquaintance with every foot of land he owns. His own soil-survey is surely a much better guide than any expert of the department or even of his own experiment station could be.

The same station director also mentioned that thousands of letters had in the course of years been received at the station asking, "What are the best paying crops?"

It is a common thing for me to receive similar inquiries. Every well-known farm writer receives them. It is especially the people who have just bought a farm, and have little or no experience in farming, but who imagine that anybody can farm, who ask such questions. If there was any one crop or any crops that are especially profitable, and generally known to be so, why, so many farmers would grow it or them that the country would soon be overstocked with such particular crop or crops, and they would cease to be profitable. It would be just as sensible to ask what line of merchandise is the most profitable to engage in. Perhaps there is as much clear profit in the drug trade as in any other. Yet if every merchant were to become druggist, the druggists would all starve.

You might send me a complete map of your farm, indicating all the peculiarities of each field, and yet I would be unable to plan your operations as to selection of crops, manure application, etc., for you. It finally resolves itself not only on your own soil-survey, including the consideration of the antecedents or past history of each field, or even part of a field, but also on a thorough survey of local conditions, markets, etc. In all these things the farmer will find home survey (self-help) the best and only reliable.

T. GREINER.

Shall the Young Man Go West?

A YOUNG reader of FARM AND FIRESIDE who lives in Indiana writes for advice. He has not yet quite attained his majority, and for a little over two years has worked for his father, who is in business, for three dollars a week. This may be all his services are worth, but he thinks otherwise, and he has an attack of the wanderlust and desires to go to the Pacific Coast and "take up a claim."

Evidently this young man has been reading the wrong sort of literature. Let me tell him there are none of the sort of claims he is thinking about on the Pacific Coast to be taken up. They have all been taken long ago. I have a brother who had accumulated about the same kind of ideas this young man has, and he went out there to take a claim and get rich. He is there yet, but is not rich by a long shot. He says he made a mistake. He says he should have stopped in Idaho and shantied and rustled among the jack-rabbits, and raised enough to feed himself until the surveyors came, then taken a claim and held it until the railroad came, and the towns sprang up. If he had done this, like lots of others did, he would now be comfortably fixed.

The first question this young man should ask himself is: Do I make my services worth more to father than three dollars a week? Would I pay another young man more than three dollars a week to do the work I am doing? I rather think that if he will look into this matter honestly and squarely he will come to the conclusion that he is getting all he is worth. Then the thing for him to do is to buckle in and make himself the most desirable employee about the establishment, and when he has done this his salary will rise rapidly, because he will be too valuable to lose. Study this matter well, then quietly tell the father you want to render better service and get better pay. Without a doubt he will try you on. Then make good.

F. G.

Making a Compost

FARM AND FIRESIDE:—I would be glad to see an analysis of equal parts of (in pound) acid phosphate, salt, lime, tobacco-stems (not stalks), barn and hen-house manure in your valuable paper. Also I would be glad to know the advantage of using soap-suds from the wash-tub to rot such a compost.

North Carolina. J. M. G.

Lime should never be added to acid phosphate, tobacco-stems or any kind of animal manure, as there is danger that the lime will drive off some of the nitrogen contained in these manures in the form of ammonia, and in the case of the acid phosphate the lime will undo the work done by the manufacturer in making the same. I do not consider salt of any particular agricultural value, and I think money expended for it in such a mixture as that suggested would be practically thrown away. All the other substances suggested are good fertilizers. The compositions of acid phosphate, tobacco-stems, barn manure and hen-manure are given in the following table:

	Nitrogen Per Cent	Phosphoric Acid Per Cent	Potash Per Cent
Acid phosphate.		12 to 16	
Hen-manure ..	1.63	1.54	0.85
Barn manure..	0.5	0.26	0.63
Tobacco-stems	1.64	0.92	2.82

From this table it will readily be seen that a mixture of equal parts by weight of these four substances would contain about .94 per cent of nitrogen, 4.18 per cent of phosphoric acid and 1.07 per cent of potash.

Neither lime nor salt contain either of these three fertilizing elements, so if they were added they would decrease the above percentage by one third in each case.

Ordinary soap-suds would be no more valuable than plain water to rot this compost. There will be no trouble about the mixture rotting thoroughly if the pile is kept moist, and it would make a first-class compost. If the soap-suds were from soft soap made at home from lye-leached wood-ashes, it would contain a little potash, but the suds from the hard soaps have no fertilizing value and would not help the compost. ALFRED VIVIAN.

Ohio State University.

Elkhart Buggies
have been sold to the consumer
For Thirty-Six Years
May We Send You Our Large Catalogue?
Elkhart Carriage & Harness Mfg. Co.
Elkhart, Indiana

I'll Save You $50
On a Manure Spreader
If You'll Let Me
This is just a little ad—but a postal will bring my Big Book—and give you my $50.00 Saving Price and Special Proposition. You can save as much answering this little advertisement as if it covered a page.
My Spreader positively will do better work and last longer than any Spreader made—no matter what the price—so why pay $50 more? 20,000 farmers have stamped their O. K. on my spreader and money-saving price. My Special Proposition will interest you. Just a postal addressed to Galloway of Waterloo, Iowa, will bring you everything postpaid.
Freight Paid
Will You Pay a Penny For The Postal and Save $50.00?
Address Wm. Galloway, Pres.
WM. GALLOWAY CO.
749 Galloway Sta. Waterloo, Ia.

2 H.P. Stationary Engine $29.50 ENGINE ONLY
2½ to 8 H. P. Proportionate Prices.
For use on the farm and in the shop.
Runs cream separators, churns, pumps, grist mills, corn shellers, washing machines, lathes, printing presses, etc. Burns kerosene, (coal oil) alcohol, gasoline, naphtha, distillate, without change of equipment, starts without cranking, throttling governor, drop forged crank shaft, best grade babbitt bearings, free catalog tells how to save half cost of hired help. Testimonials. 10,000 in use. All sizes in stock ready to ship.
DETROIT ENGINE WORKS
133 Bellevue Ave., Detroit, Michigan

Stickney Gasoline Engines
ARE THE BEST
Why? Because of the outside igniter, modern open cooling system, straight-line valve motion and ball-bearing governor. Thousands in successful operation because of our years of experience in building the best. Seven sizes: 1½ to 16 H.P.
Send for our Free Catalog and our Catechism telling fifty-seven reasons why Stickney Engines are the Best.
Agents everywhere sell them.
Charles A. Stickney Company
MAIN OFFICE & FACTORY ST. PAUL, MINN.

1 MAN AND 1 HORSE BALE 1 TON AN HOUR
Bale at Least Cost
Our Daisy SELF-THREADING, self-feeding one-horse hay press only one on which one man can do all the work. First successful self-threading device, automatic condenser increases results. Open side hopper. Free trial. Write today for Baler Book and prices.
GEO. ERTEL CO., Quincy, Ill.

Cheap as Wood.
We manufacture Lawn and Farm FENCE. Sell direct shipping to users only, at manufacturers' prices. No agents. Our catalog is Free. Write for it to-day.
UP-TO-DATE MFG. CO., 971 10th St., Terre Haute, Ind.

ORNAMENTAL FENCE
25 Designs. All Steel.
Handsome, cheaper than wood, more durable. Special prices to churches and cemeteries. Don't buy a fence until you get our free catalog.
Kokomo Fence Machine Co.
427 North St., Kokomo, Ind.

Ornamental Iron Fence Cheaper than wood for Lawns, Churches, Cemeteries, Public Grounds. Also Wrought Iron Fence. Catalogue free. Write for Special Offer.
THE WARD FENCE CO., Box 665, Decatur, Ind.

$50 TO $300 SAVED
We are manufacturers, not merchants. Save dealers, jobbers and catalog house profit. I'll save you from $50 to $300 on my High Grade Standard Gasoline Engines from 2 to 22-H.-P.—Price direct to you lower than dealers or jobbers have to pay for similar engines in carload lots for spot cash.
GALLOWAY
Price and quality speak for themselves and you are to be the sole judge. Sell your poorest horse and buy a
5-H.-P. only $119.50
You Can Make from $5 to $10 a Day
Direct From My Factory on 30 Days' Free Trial. Satisfaction or money back. Write for special proposition. All you pay me is for raw material, labor and one small profit. Send for my big BOOK FREE.
Wm. Galloway, Pres.
Wm. Galloway Co.
745 Galloway Station
Waterloo, Iowa

Gardening---By T. Greiner

Insects in the Home Garden

Many readers of FARM AND FIRESIDE have only small gardens, and lack the elaborate equipment of sprayers, etc., which are at the command of the large trucker.

In one of the latest rural school leaflets issued by Cornell University I find the following suggestions for fighting potato beetle and slug in the home garden:

"The best way to kill the larvæ of the potato-beetle is to dust the plants either with land-plaster, with Paris green mixed with land-plaster, or to spray with Paris green in water. It should be applied just as the larvæ are emerging from the eggs, and if this is not sufficient, several times afterward or as frequently as they become serious."

I have persistently recommended the use of arsenate of lead as the better remedy. But when that cannot be had, and the home gardener near small towns often finds it difficult or impossible to obtain it, then Paris green used in the way recommended will do very well.

Then there is the green cabbage-worm. I have a good many remedies that I can use in an emergency, one of the simplest, however, being the insect-powder known as buhach, and which, when fresh, is of great strength, so that it can be largely diluted by the admixture of flour, lime, land-plaster, etc. This is to be dusted on the wormy plants early in the morning when the dew is on. Or it may be put in water, one tablespoonful to several gallons, and sprayed or sprinkled on the plants.

If buhach, as most likely in the case of the home gardener, is not on hand (only the larger seed-supply stores keep it), then other remedies must do, if nothing else than hot washing-suds used copiously, by dashing rather than sprinkling over the plants.

Cornell University Rural School Leaflet says: "About the only method to rid cabbages of cabbage-worms is to keep the worms picked off while the plants are young. After the plants begin to head you will not have much difficulty. If you do not care to handle the larvæ, they can be killed by sprinkling with either land-plaster or Paris green mixed with flour at the rate of one half teaspoonful of Paris green to one cupful of flour. This quantity will dust a large number of heads. The bottom of an old baking-powder can may be punched full of holes, and in it the flour and Paris green may be thoroughly mixed. The mixture can then be dusted on the plants."

About squash-bugs the same bulletin says: "Squash-bugs should be picked off by hand. This is the only method that brings success. The eggs are on the under side of the leaves in masses resembling in general appearance the eggs of the potato-beetle, particularly in color. As a rule, when the bugs are young they will be found in groups on a leaf. Such leaves should be broken off and burned."

The reference to the color of the eggs of squash-bugs and potato-beetles is evidently an error. The eggs of the former are usually dark brown, those of the potato-beetle yellow or orange. I always pick every leaf or part of leaf of a plant when I find egg-clusters of these insects on them, and they are burned, mashed or put in a dish containing a little kerosene.

Working Land on Both Sides

In our gardening operations it frequently happens that we have little patches from which an early crop has been taken, and which we desire to put in some second or even third crop. Or we may have a piece that had not been plowed and prepared early, and which we wish to use for a late crop. Such cases may call for one-horse plowing. Usually we can do much better work, plow deeper, and of course much quicker, and turn the rubbish under much more thoroughly, by plowing with two horses.

One-horse plowing is simply a makeshift, but it comes handy now and then. How to do it in the best way, and especially how to get the rubbish out of sight, is the question.

I had a patch that was not used for anything in the early season. It had parsnip and salsify on it from last season, and some of these vegetables were still left when the adjoining lands were plowed. Then we did not get ready to work it up and plant it for some weeks, and the early weeds got in their work. When I finally went at it there was also a heavy top crust over the land. So I took a heavy cultivator and broke the crust and tore up the weeds, and I went over it until this job was quite well done. Then I left it for two or three days, giving the chickweed and other weeds a chance to dry and die.

Next came the harrow (drag), also a one-horse tool, and I went over the patch pretty thoroughly, working the surface until it was quite fine. That made it ready for the one-horse plow. It turned the furrows. It buried the rubbish. It put the worked and fined side down to the bottom of the furrow, and gave us a chance to work the other side with harrows, until what was the bottom became well fined and in good shape to receive seeds or plants. Thus I find working both sides very useful.

Procrastination Not Profitable

If there is one lesson in potato-growing I believe I have learned thoroughly (at some cost for experience), it is that we must not wait long before making our first applications of poisons for "bugs," so called. Many growers do not seem to be in a hurry to use the sprayer until the work of the slug in the defoliation of the vines can be plainly seen all over the field.

Usually the newly-hatched brood is at first feeding closely together in the center of the shoots, where the foliage is young and tender. If this is coated in proper time with the Bordeaux arsenate-of-lead combination, or with Paris green in place of the arsenate, the slugs will meet their fate soon after they have emerged from the egg and before they have done any damage worth mentioning. Wait until the foliage is gone, and part of the crop is irredeemably gone with it. The early application also takes care of the flea-beetle, and thus in a measure lessens the danger from blight and tip-burn. There is always danger in delay.

Radishes With Root Crops

The practice of mixing a few radish-seeds with carrot, beet and parsnip seeds when sowing these with the garden drill (or by hand, either) is a good one. The radishes come up so quickly and strongly that the exact location of the row is plainly marked a week or so after seed is sown, and we can begin running the wheel-hoe even before the carrots or beets are up or show very plainly. But don't forget to pull the radishes up in time, whether you use them or not. It is better to pull them up and throw them away than letting them remain in the rows until they crowd the regular and more valuable crop. We clean the radishes out of the rows as we go along, and bunch the good ones for sale.

Plant-Lice Easily Disposed Of

Eggplants, pepper, tomato and perhaps some other plants while in the greenhouse are often seriously infested by green fly, so are roses outdoors. My Crimson Ramblers were simply overrun with them, and with thrips, besides.

For pests of this kind I have for years used fumigation in the greenhouse, applied by burning dampened tobacco-stems, and a strong tobacco-tea applied with a sprayer to roses and other outdoor things. Two years ago I got hold of a tobacco extract, and find it very easy now to get rid of plant-lice, etc., in the greenhouse or outdoors. I apply it with one of the tin hand-sprayers, such as I use for spraying cattle for flies.

To Kill Cabbage-Worms

For every hundred head take one teaspoonful of Paris green, and mix well with one pint of wheat flour. Take a large-holed pepper-box (or punch holes in the lid of any tin box with an awl or small nail), and "pepper" the cabbage with the mixture while the dew is on. It will fall right off unless the cabbage is wet.

Apply about as thickly as you would salt to a cooked vegetable. Two or three applications during the season will be sufficient. This amount of Paris green is enough to kill the worms while so small as to be harmless, especially if the cabbage is well washed before using.

This will also kill the worms that infest currant and gooseberry bushes. Apply at the first sign of worms, or it will be too late. Weakened with more flour, it is good for rose-bush slugs. If used too strong it makes the leaves curl and turn brown at the edges.

MRS. WM. H. SCARBOROUGH.

Seedling Fruits and Vegetabl

We produce annually new varieties strawberries and potatoes from se From this work we derive much plea and some profit. Many of the strawber seedlings are of value, and some ex the many highly-lauded kinds offe year by year.

The strawberry-plant is strictly lo in its habits. Kinds originated in East sections seldom do any good on our so and berries originated on Illinois soil a valueless in the East. Hence we that these kinds originated at home best for us. Then, again, the plants a free from disease for several years least.

The variation in the growth, fru qualities, productiveness and manner reproducing form an interesting study the student of Nature. Strawberry-see are saved from selected berries of t season, by washing and drying them, be used the next spring, or, if preferr they can be sown in shallow boxes fine soil with sandy mixtures, and ke in a shaded spot and moist till germin tion begins.

Never allow the soil to become bak and dry. After the plants appear, ke the soil quite moist. When they ha grown to a fair size they can be mov to the open ground.

If given reasonable culture you c have good bearing plants for the ne year's fruiting.

If seed is kept over till spring, it c be sown in the hotbed and treated as ready described.

Potato-seed is procured from the tato-balls that grow on the vines in t early fall. It is saved in the same w as tomato-seed, and in the spring we s it in the hotbed and treat it as we do tomato-plant.

By transplanting once or twice we cure good, strong plants, and when weather will permit, they are ta the open ground.

The variation in the potatoes from same seed-ball is astonishing. You find varieties of shape, size, color a quality as numerous as the seeds in ball. Variations in size run from that a hickory-nut to that of a duck e shapes of all descriptions and colors, blue, white or mottled; productive running from two or three tubers up thirty. We have had as high as thir six tubers from one seed.

We have been following this work the past thirty years. It is simply a w of pleasure in studying Nature in wonderful variations in plant life.

J. H. HAYNES

Late Crops

There is a whole list of veget which one can plant in June, July August. Beets and beans are good second crop planted any time in June early in July. Dwarf (early) sw corn may be planted the first of J and will most likely give you good ing-ears before frost. Cucumbers late pickles may also be grown at time. In July you can plant late c bages, late cauliflowers and sm crops, also sow seed of kale, tur winter radishes, other radishes, etc. ery-plants for the main crop are us ly set during the first part of July. even up to August.

Remedy for Cabbage-Worm

I would like to tell the readers FARM AND FIRESIDE my remedy for c bage-worms. Take one tablespoonfu saltpeter, and dissolve it in a pail warm water (about a six-quart pail), sprinkle freely as soon as you disco the worms at work.

You may have to make the second plication, but it will pay. Besides dri the worms away, you will be surpr how the cabbage will grow. I have this for years and never knew it to

KATE ARMSTRO

The Bordeaux mixture is the pr remedy to use for all fungous trouble namely, mildew and rust of beans; p to and tomato rot and leaf-blight; me and cucumber diseases; celery leaf-bl and rust, etc. The half-strength ture (two pounds of copper sulphate, pounds of quicklime and fifty gallon water) is strong enough to use in vegetable garden, except for potato

An application of wood-ashes, slaked lime, or gypsum, tainted kerosene or turpentine will drive a the striped beetles.—Farm Journal.

Fruit-Growing---By Samuel B. Green

Rose-Bug on Grapes

J. H. K., Trenton, New Jersey—I think the insect which you refer to as destroying your grapes when they are about half grown is the well-known rose-bug, and that your best remedy is to cover the fruit clusters with paper bags as soon as the flowers fall, or if the bugs are troublesome before that, put them on earlier. In doing this, use one-pound paper bags, drawing them up over one cluster, or if two clusters are close together, over both of them. The bags should be cut down for about two inches on each side, to allow of their being drawn up over the branch, folded, and held in place with one pin.

Mildew on Roses

Mrs. R. F. D., Peel, Oregon—The rose-leaves which you sent are injured by mildew. This commonly occurs only where the plants do not have the right atmospheric conditions. It might occur in a greenhouse or in the open border.

It is important for roses that they have a good circulation of air about them and full sunlight when planted in the open border. This does not mean that they like a very exposed situation. They are most susceptible to this trouble when they are exposed to cold winds before the moisture has dried off early in the morning or at night. Roses are quite liable to this trouble in the autumn, when the days are growing cold and the plants still making considerable growth, owing to the moist, warm soil.

I generally recommend, under such conditions, the dusting of the foliage with flowers of sulphur, which destroys the fungus that causes the disease. I think, now that growth has started rapidly and the weather is getting warmer, the chances are that the mildew has left your roses; if not, kindly send further specimens and let me know more about your conditions.

Apples for Winter Use

"E. P. S.," a Michigan FARM AND FIRESIDE reader, writes me that he is "out of luck" again this year. He will have a fair crop of early apples, but no winter apples. He says he is very fond of this fruit and tries to grow a full family supply of both fall and winter varieties, but last year he missed out on both kinds, and this year he will have only the early kinds, and they will not keep into the winter.

I am in the same boat myself. I will have a fair crop of early fruit, but very few winter apples. Last year I canned a few of the early apples, putting them in half-gallon cans without sugar, and sealing with the thick rubber rings now made, and they came out in fine order, with all the apple flavor unimpaired. This year I shall put up a full supply of the early fruit for winter use. I never have tried putting up the raw apples in cans, but have been informed that they keep nicely if sliced or quartered and all the open spaces filled with hot sweetened water and the cans tightly sealed. My informant said the water should not be very sweet, just slightly sweet, to preserve the true apple flavor. I shall try a few cans to see how they come out.

I have read quite often that apple pies are not good food, but they are my favorite pie, and as I have had very few of them the past winter, I am hungry for them. So far as I can note, I am not any healthier now than when I had all the apple pie I wanted, so there will be a large supply of material for such pies go into cans as fast as it gets into canning condition.

While on this apple subject I want to say a word about cider. Fresh cider seems to be a very good drink if taken in moderation, but hard cider, even moderate quantities of it, is harmful, while if it is drank as a regular beverage it is a killer. I am well satisfied that it is more severe on the coating of the stomach than whisky, and that is bad enough. I have seen some of my best friends who drank hard cider go down when they should have been in their prime. All died of stomach trouble. And I am well satisfied the "trouble" was caused by hard cider. Some of them would check, or stop, fermentation in their cider by putting in salicylic acid, and this only made a bad drink worse. The cider acid seems to so injure the coating of a person's stomach that the entire system is affected.

A noted physician, who once spent a six-weeks vacation in a section where apples was the principal crop produced, told me that he had long suspected hard, or semi-hard, cider as a cause of severe stomach trouble, and during that vacation he examined quite a number of people who used it to a considerable extent, and in every case he found that the stomach was affected. He said he would earnestly advise people to avoid it. He said the unfermented juice of apples was really beneficial if taken in moderate quantities, while he considered the apple itself, either raw or cooked, one of the very best and most healthful fruits that grow. He said if a person would eat one raw apple before breakfast every morning, that person would rarely suffer inconvenience from overeating, because he would not care for much heavy food, while his digestion would be much better.

If you are not going to have any winter apples, can your early fruit, and have apples, anyway. A little woman of my acquaintance last year canned seventy-five gallons, and all of it kept finely. She said she was determined to have a good supply of "pie stuffing," for the boys loved apple pies better than anything else on earth. FRED GRUNDY.

Roses From Seed—Ranunculuses in Open Ground

B. H. S., Wirtian, Ontario—Roses can be easily raised from seed. To do this, the fruits, commonly called "hips," are picked when fully ripe, mixed with about three times their bulk of sand, and buried in a box in the ground. In the spring of the year the "hips" are well rotted, and are then broken to pieces by rubbing in the hands. The sand and seed may then be sown in the open ground, or, better yet, in a moderate hotbed or in the house. Seedling roses should flower in their second or third year from seed. Of course, roses from seed will not be true to name, and semi-double or double roses may produce those which are quite single and much inferior; but, on the other hand, they occasionally produce something very much better. It is in this way that nearly all of our cultivated roses have originated.

The ranunculuses which you have growing in pots may be planted out. The chances are, however, that as you forced them into flower last winter, they will be so weak that they will not amount to much of anything further. I should think it hardly worth while for you to bother with them, but there can be no harm in planting them out and letting them take their chances. Sometimes they will do well under such conditions.

Lichens on Apple-Trees

Mrs. A. L., Glengary, Idaho—The sample of so-called grayish moss that you sent is one of the cup-lichens, and is very common on the bark of apple and other trees, and even on rocks, in sections where the climate is cool and moist. It is especially common through the eastern United States.

This little plant does not seriously affect the tree, but on account of its affording protection for insects and other fungous growths, it is better to have it removed. This so-called moss may be removed from the trunks of the trees by scraping them with a sharp hoe, and then spraying with Bordeaux mixture or any other good fungicide. If this treatment is occasionally followed, it will prevent the further growth of moss on the trees.

A treatment formerly much in use in New England was to scrape the bark off the trees in winter, and then wash the trunks with rather strong soda or potash lye. Where the trees are regularly sprayed for fungous diseases, this growth will not appear.

Diseased Boston Fern

H. W., Turtle Creek, Pennsylvania—You state that your Boston fern looks weak, that it is turning brown and has white insects on it. The Boston fern generally does well when given good, ordinary treatment. However, it is liable to be infested with what is known as soft scale, and even by the white mealy bug. Either of these insects will injure the plant. The best treatment when they are infested in this way is to remove the badly-infested leaves, and then with a soft tooth-brush wash the under side of the leaves that remain with strong soap-suds made from some good, white laundry-soap. In washing the leaves, they should be laid flat in the hand, with the under side up; in this way, little, if any, injury is done. The soap should be washed off later.

Another common source of injury to this fern is when it becomes pot-bound. In this case the pot becomes filled and the roots push up the surface of the soil, so that but little water can get into them. The remedy for a case of this kind is to repot the fern, taking away some of the old soil and replacing it with good, rich soil. Occasionally the pots become filled with angleworms, which, while not directly attacking the fern, by their presence so pack the soil about its roots as to bring about a bad condition. This may be remedied by repotting, taking away the old soil and putting in that which is better. This fern is also sometimes injured by overwatering, which may cause just as serious injury as not watering enough.

Spraying for Plum-Pocket and Peach-Leaf Curl

G. W. J., Forest Lake, Minnesota—I should be afraid to recommend you to spray plum-trees with a solution as strong as six pounds of blue-stone to fifty gallons of water. I think that you had better use one pound of blue-stone to twenty-five gallons of water, and that this is strong enough to kill spores on the wood. This, of course, must be used before the buds begin to expand, or otherwise they will be burned. This treatment is especially desirable for prevention of plum-pocket and peach-leaf curl, but undoubtedly would destroy the spores of a number of other harmful diseases. Bordeaux mixture made double strength is also used for the destruction of spores at this time, but even this would be too strong to use while the trees are in leaf. However, I think the blue-stone solution first referred to above is the best to use.

Filling Trees With Concrete

G. W. M., Sparrows Point, Maryland—Your hollow walnut-tree, which formerly bore well, and which has failed to bear for two or three years, will very likely bear well again this year. I do not know why the crop has fallen before ripening of late years, but do not think there is any connection between the falling of the nuts and the hollow trunk. The chances are that the falling of the nuts is due to some climatic or other local condition.

In order to prolong the life of the tree, however, and to make it more vigorous, so that it can produce more nuts, it would be a good plan to clean out the hollow in the trunk of your walnut-tree, fill it with cement concrete, and cap the filling over, so that the water cannot get in around it. The cavity should be well cleaned out and all the dead wood removed before the cement is put in.

Save Money On Roofing

You ought to know all about different roofing materials before you buy any roofing. The best authority on roofing is the Roofing Book.

It tells about all different kinds of roofing materials. It points out the weak spots in different materials, and proves conclusively that there is only one roofing that never wears out. The kind of roofing you ought to buy—**Sea Green and Purple Slate.** It lasts generation after generation and costs nothing for repairs.

The Roofing Book will be sent you free on request. After you read it, you can judge intelligently what roofing is the most economical, the most durable, the most reliable, the most satisfactory.

Write for the Roofing Book before you spend a dollar on roofing material. It will be worth many dollars to you, although it costs you nothing.

The American Sea Green Slate Co.
"Roofs that never wear out."
Box 13A, Granville, N. Y.

$1,500 PROFIT MADE ON CIDER
Write for our free catalog which fully describes and illustrates The Original
Mt. Gilead Hydraulic CIDER PRESSES
For custom work in your locality they are money makers. Built in sizes 10 to 400 barrels per day. Hand or power. Also Steam Evaporators, Apple-Butter Cookers, Vinegar Generators, etc. We can show you how $1,500 clear profit can be made.
Fully Guaranteed
Hydraulic Press Mfg. Co., 106 Lincoln Ave., Mt. Gilead, Ohio. Or Room 119D, 39 Cortlandt St., New York, N. Y.

Monarch Hydraulic Cider Press
Great strength and capacity; all sizes; also gasoline engines, steam engines, sawmills, threshers. Catalog free.
Monarch Machinery Co., 603 Cortlandt Bldg., New York

The "Eli" King of Balers Horse and Steam Power
A train of followers, but no equals. Proves its superiority wherever it goes. Makes tight shapely bales, not loose bundles, works fast, avoids accidents and endures. Little draft, tremendous power. The machine that makes competitors tremble. Eli catalogue free.
18 Styles
Collins Plow Co., 1116 Hampshire St., Quincy, Ill.

CIDER MACHINERY
Catalogue Free
Power presses, pumps, etc.—the most satisfactory and profitable. Used by largest makers.
THE BOOMER & BOSCHERT PRESS CO.
99 Water St., Syracuse, N.Y.

SPRAY Your Fruits, Crops, Poultry Houses, and do whitewashing with The **AUTO-SPRAY.** *Factory price* and guaranteed to satisfy. Fitted with Auto-Pop Nozzle does the work of three ordinary sprayers. Used by Experiment Stations and 300,000 others. We make many styles and sizes. Spraying Guide Free. Write for book, prices and Agency Offer. **The E. C. Brown Co.**
18 Jay Street, Rochester, N. Y.

A Little Gold-Mine for Women
The U. S. Cook-Stove Fruit-Drier
Dries all kinds of Fruits, Berries, Cherries, Corn, Vegetables, etc. It takes no extra fire. Always ready for use, and will last a lifetime. It works while you cook. Write for circulars and special terms to agents. **Price $5.**
E. B. FAHRNEY, Box 125, Waynesboro, Pa.

WHITMAN'S NEW MODEL STEEL BEAUTY HAY PRESS NEVER FAILS
With or without self-feed positive pull back without spring.
Write for Catalogue F.
Our success with this machine has been simply marvelous. Thorough tests convince us that it is absolutely correct in principle. It is built entirely of steel. Has low bridge for horses to walk over, and no pull of team in crossing. Has large feed opening and long bale chamber. Warranted in every particular. We also make a full line of Balers. For full information address us. A complete line of power balers, hay, paper, wool, shavings, cotton hull and compress presses.
THE WHITMAN AGRICULTURAL COMPANY, 6924 South Broadway, ST. LOUIS, MISSOURI

ATLAS PORTLAND CEMENT
Makes The Best Concrete
The cement bought by the U.S. Government for the Panama Canal
SEND FOR OUR FREE BOOK "Concrete Construction about the Home and on the Farm." Contains over 100 drawings and illustrations.
THE ATLAS PORTLAND CEMENT CO., Dept. 122 30 Broad Street, N. Y.
Daily output over 40,000 barrels, the largest in the world.

OHIO HAY PRESS SIMPLE STRONG TIGHT
80 BALES EVERY HOUR
There's Good Money in a Good Press
The Ohio leads them all because it is the strongest and lightest, and turns out eighty well made, compact bales an hour, all day long.
The Automatic Foot Button Block Dropper times the work perfectly. Every minute a money-maker. No stops for oiling. All steel construction. No time lost in repairs. Get the Ohio catalogue and see the big advantages it offers. Souvenir Baler's Hand Book mailed Free.
OHIO CULTIVATOR CO., 202 Ohio Street, Bellevue, Ohio

Which do you think won?

Not long ago two men, athletes, went into a contest to see which could stand erect and hold his arms stretched out full length at either side of his body for the longer time. One man had fed on steaks and chops, sausage, ham, roast beef, etc.; the other ate heartily, but confined himself to such foods as Quaker Oats, rice, macaroni, etc. Which do you think held out longer?

The first man lasted twenty-two minutes. The Quaker Oats-macaroni-rice chap concluded to stop after he had been at it more than three hours.

There's more strength and economy in eating lots of Quaker Oats than most people imagine.

Every family should eat plentifully of Quaker Oats at least once every day; breakfast is the best time. It strengthens you for the day.

The regular size package sells for 10c; the big family size package costs 25c; the same package with a piece of fine china in it in addition to the Quaker Oats, costs 30c. Grocers sell all of these.

60,000 ACRES LAND

Between 50,000 and 60,000 acres of land, 30 miles South of Savannah, Ga., especially desirable for colonization or reforestation proposition. Land cut over 20 years ago, at which time, trees under 12 inches were left and considerable timber is now standing, with thousands of small ones of later and recent growth. Railroad runs directly through the property and extends within 7 miles of the ocean. Good soil, good climate conditions. For sale as a whole, or in tracts of 10,000 acres. Price, terms and other features upon application.

Industrial Dept., Seaboard Air Line Ry.
Portsmouth, Va.

Why not a retail store of your own?

A splendid living can be made on a comparatively small investment in a retail line which I'll be glad to tell you about. I also know good towns where such stores are needed. EDWARD B. MOON, 9 West Water St., Chicago, Illinois.

PAINT GUARANTEED FOR 8 YEARS
$1.10 Per Gall. Freight Prepaid.

We are High-Grade Paint Manufacturers who sell DIRECT TO YOU, eliminating jobbers' and dealers' profits, a High-grade Paint, at factory prices. This will save you money. We do not sell dealers. Write for color-card and booklet.

The Wilcoxson Paint Co.
200 Chestnut Street Lorain, Ohio

CHICK SAVING COOP

Keep chicks warm and dry and save them from Rats, Weasels, Lice and Mites in the all metal Sanitary Brood Coop. Exclusive pattern, made only by us. Adds 100% to profits. Knocks off 50% from cost of poultry raising. Easily taken apart and stored. Send for Free Circular. Agents wanted.

Des Moines Incubator Co., 254 Third St., Des Moines, Iowa.

WE BUY OLD BAGS

What do you do with your old bags? Don't throw them away, we will buy Feed bags of all kinds—Gluten, Beet Pulp, Bran, Oats, Corn, Cotton-Seed Meal Bags, etc., and pay you highest prices. Write us today for prices and particulars. We pay the freight.

ST. LOUIS BAG & BURLAP CO.
330 N. Main St., St. Louis, Mo.

DO IT NOW

Send for our free booklet telling how to put out fires, and describing the wonderful $1.50 Goodson Fire Extinguisher which contains the same chemicals and acts on the same principle as the chemical fire extinguishers used by the fire departments of all the large cities. 500 homes and barns destroyed every day. Yours may be the next. Agents wanted.
Goodson Electric & Mfg. Co., 4 Point St., Providence, R. I.

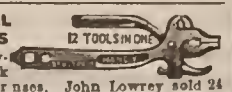
Agents Wanted

AGENTS PORTRAITS 35c, FRAMES 15c, sheet pictures 1c, stereoscopes 25c, views 1c. 30 days credit. Samples & Catalog Free. Consolidated Portrait Co., 290—81 W. Adams Street, Chicago

JUST OUT Low priced, 3-lb Mop: turn crank to wring; hands keep clean. Women all buy; 150% to Agents; exclusive territory given; catalog free.
U. S. MOP CO., 642 Main St., Leipsic, Ohio.

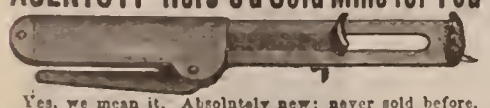
WANTED AGENTS TO SELL THE FARMER'S ACCOUNT BOOK. Quick seller, big inducements. Twenty thousand already sold. Endorsed by all. Address L. L. SYPHERS, Fort Wayne, Ind.

AGENTS SELL THIS



combination stove-lid lifter, screw-driver, wrench, hot pan lifter, tack hammer and puller, and 100 other uses. John Lowrey sold 24 first afternoon, made $5.50. Write Today. Outfit Free.
THOMAS MFG. CO., 205 Barney Blk., Dayton, O.

AGENTS!! Here's a Gold Mine for You



Yes, we mean it. Absolutely new; never sold before. Ideal summer proposition for Ladies or Gents. $3 to $5 a day easily made working only part time. Capt. Jack O'Connell, Mich., sold 154 in 3 days. You want it. Better risk postal for full information and free offer.
POOTE MFG. COMPANY, Dept. 1001, DAYTON, OHIO

About Practical Poultry-Raising

A Home-Made Brooder

I HAVE read several plans for home-made brooders, all of which required artificial heat, and most of them were failures.

A neighbor has constructed a brooder for fifty chicks, size three by nine feet, made of plank, with a partition through the middle about fourteen inches high, with glass in front. The top is made of plank and a piece of iron roofing the length of the brooder.

The hovers are two goods-boxes eighteen inches square and eight inches high, with a hole in the middle of the front three inches square, for the chicks to go in and out. A frame is made to fit down from the top of the box, a cloth is tacked over the frame so as to sag about two inches in the middle, and when the weather is cold small quilts are spread over the hovers, to keep the chicks warm.

The chicks are put in this brooder as soon as hatched, and plenty of feed, litter and water are given them, so that they can run to it at will. When the weather is cold the cover is shut down. When the weather is fair the lid is raised.

The plan is for the chicks to keep warm from the heat of the body. The one I saw had sixty chicks in it. The brooder was sitting out in the yard. The chicks were past two weeks old and were lively and growing rapidly. They had lived over several nights cold enough to freeze the ground hard, without artificial heat. I heard from them at four weeks old, and there had not been any loss from death and the chicks were growing rapidly.

There are no lamps to fill, no oil-bills to pay, no chicks drabbling in the wet. The only expense is plenty of feed and the trouble of putting it where the chicks can get at it. A. J. LEGG.

Shutting Poultry Up

IT IS pretty hard work to keep hens laying where they are suddenly taken in from free range to close confinement. The change seems to affect them disastrously in almost every case. We can see why this should be so if we will stop and think about it a minute.

Where the hens have all the ground they need to run over, they get a variety of feed, grass, bugs and worms, and the rations you give them in addition. Water they most always get fresher than they will if shut up. And then, the exercise they have in running around at will does them great good. Perhaps one of the best things of all about it is the fact that they are not prisoners, but are free. No animal or living creature does quite so well in the long run when not in a natural state.

The only way to be at all sure that one will get as good returns from a flock of hens shut up as in a condition of freedom is to make up to its members as nearly as possible the rations and conditions formerly held. That is, there must be plenty of grass or other green feed. The water must be pure and as fresh as can be. Shade is an essential, especially in hot weather. Enough shells and grit must be provided. Some bone and meat need to be included in the ration. E. L. VINCENT.

How I Manage My Poultry

I HAVE found that a small hand-mill in which to grind vegetables, bones and corn for the poultry soon pays for itself in the increased egg production.

To prepare a mash, I take half a gallon of milk and the same amount of ground vegetables of any variety, then one quart of corn, wheat or oats, and a tablespoonful of ground charcoal. Once a week I use a teaspoonful of red pepper, cooking all thoroughly, and thickening it with bran.

I keep slaked lime where they have free access to it, also ashes containing a sprinkle of sulphur where the biddies dust.

The hens require less feed during the summer, as they have the run of the farm, but I consider it a good idea to keep the feed-box supplied, giving the hens a better chance to pay their way.

For young chicks I feed baked bread the first week. To prepare this, I stir up a quantity of meal, adding soda, a few grains of salt, and milk enough to make a rather stiff dough. Afterward I feed cracked corn (scalded), wheat screenings, cooked vegetables, etc.

For gapes I change the location, if possible. Kept out of the dew, there is no great danger of gapes.

I have never kept any breed that did not far more than pay expenses with the above feed. I have at the present thirty-five hens. As I average twelve dozens of eggs a week, I think I have made a fair profit, as the vegetables, bones, milk and scraps cost nothing, and one dollar more than covers the cost of grain consumed in a week.

Ducks, unless confined, have always proved a dear investment for me, but geese are usually more profitable, as they require but little grain, living almost entirely on green stuff. The eggs alone have always paid for what grain they consumed, and left the feathers as clear profit, no small item at fifty cents a pound, and never enough to supply the demand at that. They thrive on dry land if supplied with drinking-water, and a small pond in which to swim.

I have kept turkeys for twenty years. I find they pay well, but like all other things, they require labor and care.

I select the best for breeding purposes, and procure a different tom every other year. The old turkeys are fed with the chickens. The young poults are fed eggs and bread the first few days, then bread soaked in sweet milk, for a month, with a sprinkle of charcoal, and now and then clabber cheese, cooked potatoes, etc.

From two hens I usually raise twenty and sometimes thirty dollars' worth of young turkeys. When I keep more hens, they run me to death and go so far and are so hard to get up to the coop with their young ones that I raise fewer turkeys and make less profit than with just two. DORA B. PHILLIPS.

Summer Diarrhea

THE cause of diarrhea is usually the too free use of very watery green food. If the green food is very young it contains a large proportion of water and very little solid matter. When this green stuff is consumed by the fowls in large quantities there is usually a laxative effect, especially if the chickens have been kept in confinement during the winter and spring and fed grain exclusively.

Most poultry-raisers aim to feed some green food during the winter months, but there are still some who seem to think that corn and other grains are good enough for a winter ration. It is the poultry of this latter class that suffers the most from diarrhea. In justice, however, it may be said that this trouble will appear in flocks which have been receiving the best of care.

To remedy any difficulty such as mentioned, confine the chickens for a few days and put them on a diet of cake prepared as follows: About eight parts of corn-meal, two parts of ground oats, one part of bran and enough water or milk to cook the whole into a cake. A little salt, say a teaspoonful to every quart of the other ingredients, will add flavor to the food. Feed this twice a day for several days. W. F. PURDUE.

Care and Feeding of Young Chicks

FEEDING chicks and giving them the right kind of start is no easy matter and one in which all poultry-raisers are much interested. There is as much injury done to the growth of the little chicks as to the skim-milk calf that is underfed one time, overfed the next, and sometimes not fed at all. A calf is not really stunted or damaged in growth because he is fed on skim-milk. It is the irregular and improper feeding that stunts him. Young chicks are like the calf. If irregularly fed and not half taken care of you are sure to fail in your attempt to raise them.

Many thousands die each year from improper feeding. Young chicks are more subject to disease in hot weather than in the earlier part of the season, and barring lice and gapes, the most common and dreaded disease is bowel trouble. Many farmers will mix up a sloppy mess of raw corn-meal with cold water, and throw it to the chicks once or twice a day, and then will wonder why they lose all their chicks. Corn-meal is a good feed if mixed with hot water or milk and properly cooked, but to feed a sloppy mess of raw corn-meal and water is the surest way to produce bowel trouble. The raw corn-meal ferments and sours in the crop and forms an acid which causes an irregularity of the bowels. Some will afford nothing clean for the chicks, overcrowd them and give them impure water. These are all causes of bowel troubles and should be carefully avoided. It is a good plan to put a little lime-water in their drinking-water as a tonic.

If chickens are worth raising at all, they are worth raising well, and should be kept healthy and growing. For the first few days I formerly gave the little fellows hard-boiled eggs and oatmeal, but have found that they do just as well, or even better, if fed a prepared chick-food mixture from the start. This is fed five or six times a day. If a prepared chick-food cannot be obtained, feed a variety of cracked corn, wheat, millet-seed, etc. The more variety you give them, the better, but do not feed one thing continually.

Supply your chicks with plenty of clean, fresh water at all times, for they will drink many times a day. I most sincerely believe that more losses in the raising of young chicks are caused by impure water than anything else. Young chicks will drink whenever they see water, whether it be in stagnant pools or mud puddles, so you should always bear in mind to keep your chicks well supplied with cool, fresh water.

If you do not have grass runs for your chicks, supply them with some kind of green food. Lettuce, lawn clippings, etc., are excellent. Meat is another important item. If they are yarded, they should be given green bone or good beef scraps, but if they have free range, they will find enough meat to supply their needs. Plenty of sharp grit should always be kept before them. Your food and feeding may be all right, but they cannot properly digest their food unless they have grit.

Keep your brood-coops thoroughly cleaned, for filth invites disease. I clean my coops thoroughly every week at the least, and spray them with coal-oil (kerosene) and carbolic acid to keep away the lice and mites. A few lice will suck the vitality out of the most healthy chicks. If your chicks stand around with closed eyes and drooping wings you may be sure that they are covered with lice. Guard against lice from the beginning, for if you don't, and they do come, it is almost impossible to get rid of the pests.

As soon as the chicks are weaned they should be separated, cockerels from the pullets, and removed to colony-houses. Place the coops where they can have plenty of shade and grass. They are fed the chick-food until a month or six weeks old, when wheat, cracked corn, buckwheat, etc., are substituted, and when they are old enough to eat it, whole corn is given. About October 1st the pullets are moved to their winter quarters, and all the cockerels not wanted for breeding are marketed. If your chicks are bred right, fed right and properly taken care of, they cannot help but grow into large, paying business hens and be a credit to their raiser.

ARCHIE E. VANDERVORT.

Poultry Notes

Sell all eggs fresh this time of the year.

Curry favor with your hens. It will pay.

Get all the old roosters out of the flock. Sell them off.

Get cash for your eggs. Don't dicker them off with the peddler.

The hatching should all be done by this time, especially for eggs early next winter, and those are the ones that bring in the money.

Make your plans to have some chicks to sell when the price is highest. That is usually about the middle of July. This varies a little with location.

If you water your hens in an open pan, set it up on top of another pan high enough so that the hens cannot scratch it full of stuff, and still be within their reach.

A hot hen is an uncomfortable hen, and an uncomfortable hen cannot do as well as she otherwise would. Give the hens plenty of shelter from the heat of the day.

Prove the hopper method of feeding for yourself. You can rig up a box of your own that will let the feed come down as the hens take out that already out below. That is all there is of the hopper plan. If you have a little ingenuity you can make a better hopper by rigging up a three-cornered box, longer up and down than it is across the top, and fastening that up, sharp end down, against the side of the hen-house. Have a narrow slit in the sharp end, for the feed to rattle down through, and place under that a board, to keep the feed from going on the floor. The whole thing should be up above the floor a few inches.

E. L. V.

Live Stock and Dairy

Simple Ailments of Horses, and Their Cures

It must in the first place be remembered that these hints are written for those who really know little—though they may think they know it all—about horses or their ways. I have specially in mind those who live in the country at a considerable distance from the nearest veterinary surgeon, and who hesitate to send to him for trifling ailments of their horses, and yet who do not know what to do themselves.

The farmer may be blessed with help whose experience may have taught him sufficient for the occasion, but if the master is inexperienced, the chances are that the groom will be more so, and between the two the horse may get worse instead of better, until the veterinarian is called in, too late, or only just in time, to save the animal's life. It is therefore of the petty ailments that I now speak, leaving such grand affairs as glanders, farcy, laminitis and internal diseases for the skilled treatment they demand.

Perhaps the most urgent cases of any, and ones calling most for immediate treatment, are the results of accidents, and of these I will speak first.

The most common accidents are perhaps sprung tendons and the throwing of curb. The latter usually arises from the formation of the hocks; but this is not invariably the case, instances of curb frequently arising from a slip on a piece of slippery ground while the horse is galloping, from a sudden strain or from the take-off of a jump being bad. In such cases he generally shows great lameness at once. On arriving at his stable, an enlargement is discernible immediately below the point of the hock or hocks, where the seat of the curb rests, and treatment cannot be resorted to too promptly. If taken in hand at once the animal may reasonably be expected to regain his soundness in the course of a week or so. It is hardly necessary to say that perfect rest is required, after having been rubbed well with any spirit.

When delay in treatment has unavoidably occurred, cold water is the best thing if it can be applied with sufficient force through a hose or from a pipe for from fifteen to twenty minutes. This may be followed by an application of one ounce of corrosive sublimate dissolved in one ounce of spirit of wine applied with a paint-brush at night, and washed off the next morning with strong salt and water. It will not blister and it is not necessary to cut the hair off the leg.

Sprains of all sorts naturally call for rest and a proper course of treatment, but there is for immediate use a good and simple liniment which should be rubbed in daily until proper surgical aid can be obtained. It is composed of camphor, three drams; oil of rosemary, three drams; turpentine, three drams; mercurial ointment, three ounces.

For wounds and cuts a capital wash is made of copperas, one teaspoonful; fine gunpowder, two teaspoonfuls; white vitriol, two teaspoonfuls. To this add a quart of boiling water, and let the mixture stand till cool.

Another capital remedy is turpentine, one half pint; vinegar (old), one pint; four fresh eggs, and one handful of salt. Mix, and shake well. This is perhaps the simplest and best of any. I have used it with great success.

It is often necessary to plaster a wound up before a veterinarian has time to arrive, and therefore it may not be amiss to give a simple recipe for making sticking-plaster. It is as follows: Tallow, two ounces; Burgundy pitch, four ounces. Spread on linen while hot.

To make an effectual blister, melt the following ingredients over a slow fire till dissolved, and then with the fingers rub the paste into the part affected: Cantharides (pulverized), four ounces; turpentine, two ounces; English rosin, two ounces; beeswax, two ounces.

Greasy heels are common complaints of the stable, but ones for which it hardly seems necessary to call in advice, the remedy, and still more, the prevention, being so simple. Sudden changes of temperature or diet are very likely to produce them, and horsemen should be very careful, after washing the legs, to dry them thoroughly, more especially if they have used warm water.

Under-bred horses grow more hair about their fetlocks than well-bred ones, and in such cases it is advisable not to clip their heels quite close, and to guard against grit, dirt and damp. Horses with poor constitutions or those out of health are naturally more liable to be affected than others, and therefore require the more care to protect them against grease or cracked heels.

When one is found to be suffering from grease, a laxative should be given, and a warm poultice be applied for several days to the part affected, this being changed every five or six hours. Every time it is changed, care should be taken to cleanse the wound well with warm water and a solution of chlorid of lime or zinc. Afterward an astringent application may be used; it may be made from either of the following:

Equal parts of sulphate of zinc and sugar of lead dissolved in water; or sulphate of zinc, two drams; water, one pint, and enough flaxseed-meal to make a paste. Soak a pledget of tow in the solution, and fix it in its place by means of a bandage.

Horses coming up from grass should not be put on dry food too suddenly. No physic should be given until the horse has had a certain amount of dry food and the grass has been well gotten rid of.

W. R. Gilbert.

First-Prize Angora Goats, Utah State Fair

Notes on Swine

Fifty hogs in a bunch will thrive better than a larger number.

Pasture and pure water are the perfection of pig-feed for summer.

Similarity of breeding-stock produces offspring of much greater value.

The digestive powers of the hogs are the feeder's foundation of success.

Cast-iron troughs are the most sanitary, although plank will do if kept clean.

Excessive flesh produces a crowding of the internal organs that is detrimental to fecundity.

The perfect mother bunches her brood in some corner and settles down a few feet from them. Wm. H. Underwood.

Another Infringer Nailed

SHARPLES SEPARATOR CO.

John Deere Plow Co. and Deere & Webber Co.

Sued For Infringement Of DE LAVAL DISC Cream Separator Patents

For the information and caution of all whom it may concern announcement is made that THE DE LAVAL SEPARATOR CO. has brought suit in the UNITED STATES CIRCUIT COURT against the SHARPLES SEPARATOR CO. for infringement of LETTERS PATENT NO. 743,428 by the manufacture and sale of cream separators containing DISC bowl construction covered by the claims of said letters patent.

And that similar suits have been or will be filed as quickly as possible against the JOHN DEERE PLOW CO. and the DEERE & WEBBER CO., who are jobbing such infringing SHARPLES separators to dealers in the Western States.

Attention is pertinently called in this connection to the recent hypocritical advertising tirade of the SHARPLES concern against DISC separators. We have known for some time that they were getting ready to bring out a DISC machine and thus moving up in line with more modern DE LAVAL imitators and would-be competitors. We have but now, however, been able to obtain one of these new DISC machines and the necessary evidence of infringement. The facts speak for themselves and require no further comment.

In addition to the above suits the DE LAVAL COMPANY now has infringement suits pending against the STANDARD, IOWA, PEERLESS and CLEVELAND Separator Companies and the Wm. Galloway Co., all covering the manufacture or sale of INFRINGING DISC SEPARATORS, which infringement applies equally to machines being made by different ones of these manufacturers and sold under their own and various other names by several "mail order" and other concerns, as well as to EVERY USER of any such infringing separator bought of ANY of these parties.

To avoid any possible misunderstanding and dispel the pretense of some of these concerns that their machines are similar to the DE LAVAL it is proper that we should add that none of the patents sued upon involves the DE LAVAL "SPLIT-WING" FEEDING DEVICE or its combination with the IMPROVED DISC construction utilized in the up-to-date DE LAVAL separators and that none of the machines is in any degree equal in efficiency, all-around practicability and durability to the IMPROVED DE LAVAL machines of today.

We have for years patiently stood the appropriation by would-be competitors of abandoned, discarded or patent expired DE LAVAL inventions and types of separator construction, but have now determined to put a stop to the more brazen utilization of LIVE patents.

There are STILL OTHER infringers of DE LAVAL patents who will be held accountable in due course.

THE DE LAVAL SEPARATOR CO.

42 E. MADISON STREET
CHICAGO
1213 & 1215 FILBERT STREET
PHILADELPHIA
DRUMM & SACRAMENTO STREETS
SAN FRANCISCO

General Offices:
165 BROADWAY
NEW YORK

173-177 WILLIAM STREET
MONTREAL
14 & 16 PRINCESS STREET
WINNIPEG
107 FIRST STREET
PORTLAND, OREG.

Sold On 15 Days' Free Trial

No More Sore Necks or Shoulders

Rear View — Cost No More Than Old Style

Over 60,000 now in use by farmers—Over 4,500 dealers sell them. Always guaranteed to cure the worst galls, bruises or bunches while your horse works—15 days' trial or money back without question. Keep your horses well with

WHIPPLE HUMANE HORSE COLLARS

Now, hot weather is here, don't use Cruel "Sweat-Pads" and old-style, misfit collars which only make your horses' shoulders worse—Just try these collars—No risk to you—Fit any horse—No pressure on shoulder-blade or bones where sores come—No friction on neck or shoulders—45 sq. in. pulling surface on each shoulder, properly distributed—only 10 sq. in. on other collars. Get our interesting Free Book. Thousands of testimonials of users and experience of 3 years proves this the greatest horse collar ever made—You'll say so yourself. Write nearest factory.

HUMANE HORSE COLLAR CO.
1629 Lowe Street, Chicago Heights, Illinois
1978 South 13th Street, Omaha, Nebraska

A harness oiled as it should be needs very few repairs.

EUREKA Harness Oil

Not only preserves and blackens the leather in a harness; it also keeps *life* in the stitching. Use "Eureka" Oil and see how elastic harness thread becomes and how well it resists wear. Ask your dealer for Eureka Harness Oil.

STANDARD OIL COMPANY (Incorporated)

You Can't Cut Out A BOG SPAVIN, PUFF or THOROUGHPIN, but

ABSORBINE

will clean them off permanently, and you work the horse same time. Does not blister or remove the hair. Will tell you more if you write. $2.00 per bottle at d'lers or deliv'd. Book 4 Dfree.

ABSORBINE, JR., for mankind, $1 bottle. Reduces Varicose Veins, Varicocele, Hydrocele, Ruptured Muscles or Ligaments. Enlarged Glands. Allays pain quickly.

W. F. YOUNG, P. D. F., 23 Temple St., Springfield, Mass.

$29.75 For this Low Down AMERICAN SEPARATOR

Get better value. Save money. Deal with the actual manufacturers. Our catalog tells all about the Low Down American Separator, our liberal proposition, low prices, generous terms of purchase, long time of trial and efficient guarantee. Western orders filled from Western points. Address,

AMERICAN SEPARATOR CO.
BOX 1058, BAINBRIDGE, N. Y.

IT PAYS WITH EVERY ONE COW

DEATH TO HEAVES Guaranteed

NEWTON'S Heave, Cough, Distemper and Indigestion Cure. A Veterinary Remedy for Wind, Throat and Stomach troubles. $1.00 per can, of dealers, or express prepaid. Send for booklet.
The Newton Remedy Co. Toledo, Ohio.

WHEELS, FREIGHT PAID $8.75 for 4 Buggy Wheels, Steel Tires. With Rubber Tires, $15.20. 1 mfg. wheels ¼ to 4 in. tread. Buggy Tops $5.60, Shafts $2.00. Top Buggies $23; Harness, $5. Learn how to buy direct. Catalogue Free. Repair Wheels, $5.60. Wagon Umbrella FREE. F F BOOB, Cincinnati, O.

PATENT SENSE and PATENTS THAT PROTECT yield our clients enormous profits. Write us for PROOF. Inventors lose *millions* through *worthless* patents. R. S. & A. B. LACEY. Dept. 49, Washington, D. C. *Estab. 1869.*

PATENTS SECURED OR FEE RETURNED. Free report as to patentability. Illustrated Guide Book, and List of Inventions Wanted, sent free. EVANS WILKENS & CO., WASHINGTON, D. C.

Live Stock and Dairy

Practical Butter-Making on the Farm

THE first essential in making good butter on the farm, especially during the summer months, is sanitary conditions.

By sanitary conditions does not presuppose expensive buildings and apparatus as is commonly found on wealthy dairy estates. The capital for these estates is furnished by wealthy owners who have an income from other sources and who do not look to the profit from the dairy as much as they do to the fancy and showy appearance. While it is desirable to have the dairy buildings and apparatus present as attractive an appearance as possible, it is not a necessary preliminary to sanitary conditions.

An ordinary farm-barn can be made into a favorable place for the dairy. It should be kept free from odor, as milk very readily absorbs any undesirable offensive odor, which will give a bad flavor to the butter. I knew of one well-to-do farmer who insisted that the stables, floor and ceilings, be swept down every day, but when a board was taken up from the floor, an accumulation of filth and manure presented an odor that would do more harm in five minutes to butter-making than the few cobwebs would do in a year. It would have been a wiser precaution for this gentleman to have taken part of the time spent in sweeping, for putting in a cement floor, which would have shut out the most detrimental source of contamination. If the barn does not have a cement floor, it ought to be well drained. The sides and ceiling should be carefully freed from cobwebs and dust, and then a good coat of whitewash applied.

The separating should be done as soon as possible after the milking, for best results. The separator should be situated not far from the stables or in a regular milk-room. Many authorities contend that the barn is not a fit place for a separator, but it seems to me that a place that is fit to milk in is equally suitable for separating. Milking at the best is more or less a contaminating process, while the separator is a purifying one, removing any dirt and foreign matter that may have found its way into the milk during the milking.

The Care of the Cream

The cream, however, should not be allowed to remain in the barn, but should be removed to the cellar, or wherever it is kept, for ripening. It should be cooled down to as low a temperature as possible on the farm. Without ice there is no danger of getting it too cold, and there is little danger with the use of it. A cool cellar, while it is not the most desirable place, is perhaps the most convenient and practical for farm purposes. It can be cooled by letting it set in a tub of cold water for a few hours. A dug well is an excellent place. The can containing the cream can be lowered into the well by means of a rope. Of course, a tight-fitting cover should be kept over the can, to keep out the dirt or water that is liable to drop into it.

When the cream has cooled to the minimum temperature, it should be mixed with the cream in the ripening-can. Warm cream should never be mixed with cold cream, because it injures the quality and flavor of the butter.

Proper mixing of the cream is a very important factor in the making of butter. Unless it is thoroughly mixed several times daily, it will not ripen uniformly, which will result in mottled or streaked butter, and the churning will be incomplete because of the uneven degree of ripeness.

Stirring with a paddle does not accomplish the desired result, because the cream simply goes around in a circle and does not intermix the different portions of the cream from the top to the bottom of the can. Boxing it—that is, pouring it from one vessel into another—is the most thorough method of mixing it, as it brings the bottom portion of it to the top and the upper part to the bottom.

Ripening the Cream

It is not generally necessary on the farm to use a commercial starter or to warm the cream for churning. By the time sufficient cream has been collected it will usually be about the right acidity. One should not attempt to keep the cream too long. Better churn often and in smaller quantities than keep it till it imparts an old taste to the butter. Fresh cream should never be mixed with that ripening, within twelve to eighteen hours previous to churning.

The correct degree of acidity can best be learned by actual experience. Ripe cream has a characteristic smell that is soon learned, and perhaps a keen sense of smell is of as much value as an acid test in deciding the proper sourness. The churn should be scalded and cooled with cold water before the cream is poured into it, to prevent sticking. Sometimes it is necessary to add coloring, but this is influenced entirely by the breed and feed of the cows and the market demand.

The butter should first begin to appear in the form of minute granules, which gradually increase in size as the agitation of the churn continues. When they have gathered to the size of a kernel of corn, the buttermilk should be drawn off. It should be washed in about as much cold water as there was buttermilk drawn off. Have the temperature of the wash-water and the butter about the same, and do not wash the butter any more than is absolutely necessary to remove the buttermilk. Excessive washing injures the flavor. A few revolutions of the churn is sufficient. The water is then drawn off and the salt added at the rate of about one ounce to the pound, depending upon the market requirements and the temperature at which the butter is to be salted. Warm, soft butter absorbs more salt than cold butter, and considerable allowance must be made for the temperature. One should be careful not to overwork the butter, because excessive working injures the grain.

After the butter is salted it is ready for packing. This is done in butter pails, jars or prints. It is slightly less work to pack in pails or jars, but the sacrifice in price is too great to be an argument in its favor. Usually two cents a pound more can be obtained for it in prints, and this is very remunerative pay for the length of time required. A good brick printer can be bought quite cheaply, and this is the only kind that should be used. The pound bricks should be packed in a regular box for that purpose. It is well to let the butter settle a day or two before printing. A printer should be bought that fills simply by pressing down on the mass of butter, which makes the work more rapid. One can make the print while the other brick is being wrapped in parchment paper by an assistant.

If one has ordinarily favorable conditions he should not look upon butter-making on the farm with any dread. There is always a ready sale for good home-made butter, and the dairy farmer should begin to appreciate the possibilities.

LYNFORD J. HAYNES.

Harvesting Crops With Live Stock

I do not believe the question of harvesting crops with live stock is as generally understood as it should be. It is probably better understood and practised more in the West than in the East, the difference having been brought about by the difference in the conditions. The high price of labor forced the Western man with his many acres to do what the Eastern man with his fewer acres could do with the help of his family. The Western man had betimes to choose between harvesting crops with live stock or not harvesting them at all, and from this necessity some valuable lessons were learned that would not otherwise have been learned so soon.

Several crops can be harvested with live stock more cheaply than they can be harvested in the usual way, when they are fed to stock for the production of meat. Among the number are grass, rape, artichokes, and in some instances corn, peas, soy-beans, sweet-potatoes and peanuts.

In nearly all instances the grasses proper can be harvested with live stock more cheaply than when they are cut for hay and fed to the stock in the shed or stall. The Missouri Experiment Station has shown that cattle may be fattened more cheaply on good pastures than in the stall, and that this may be done under the conditions ordinarily existing, without taking into consideration the question of labor. Grass in the green state is virtually in itself a balanced food. In the dry form the element of succulence is wanting, hence the better gains from grazing as compared with feeding grass in the cured form.

Rape may invariably be harvested with live stock by grazing it off where it has grown. Cattle, sheep and swine may all be used. Sheep have the highest adaptation for it, for when they graze upon it there is practically no waste. When swine graze on rape they should get a supplement of other food. Sheep may or may not be given such a supplement, according to the object that the owner has in view. Sheep will fatten in good form on rape without grain, but if fed a substantial ration of grain when thus grazed, they will add just so much more fertility to the land.

Artichokes may of course be fed off only by swine, after cattle, or it may be sheep, have eaten off some of the leaves and tops. They are not to be used for fattening when dug by the swine, as the labor of digging them would hinder fattening, but they tend much to the promotion of health in swine kept for breeding purposes.

Corn may be harvested in the field both by sheep and swine, but not in all localities. While it has been found profitable in the broad acres of the West, with its dry autumn, it would not be so profitable in the Atlantic states, because of the high price for fodder prevailing in these, and because of the greater rainfall during the usual season of grazing. Where small varieties of corn are grown with many ears, the profit of grazing with sheep is increased.

The Canada field-pea may be harvested with swine in the field after the crop has matured, and with decided profit where the autumns are dry, as in some of the far Western states, and even in those of the Northwest. The straw is, of course, sacrificed. Peas may be harvested with more profit by sheep, because of the relatively large consumption of vine, as well as of grain, along with the pods.

Soy-beans may be profitably grazed in the mature form with both sheep and swine. Here again the harvesting with sheep will have the advantage, as the sheep will not waste the crop so much as swine, and will also consume a portion of the tops, but not so much as in the case of cow-peas, because of the more woody character of the stems of the soy-beans.

Sweet-potatoes and peanuts can be most readily harvested by allowing sheep to trim off the tops and then allowing swine to search out and consume the tubers. Both crops are usually too valuable for such harvesting by swine, but there are conditions when both may be profitably devoted to such a use. The swine should have grain food in addition to what the tubers furnish them.

WM. H. UNDERWOOD.

Let Me Pay the Postage on My Big Free Buggy Book to You

Though these books cost me 8c each for postage alone, yet I'll gladly send you one free because I want you to know about Split Hickory Vehicles—made-to-order—sold direct from factory to you at home on 30 Days' Free Road Test—guaranteed 2 years.

Book Tells How I Save You $26.50 on Split Hickory Buggies

H. C. Phelps

—tells why I can save it to you and just where the saving comes in—also tells how I save you at the same ratio on over 100 styles of Split Hickory Vehicles—more vehicles than you could see in 10 big store rooms. Better send for this book, sit down of an evening and look it over. It's full of actual photographs of Vehicles and Harness of every description. It's my latest and best book—for 1909—and it's truly a Buggy Buyers' Guide. It not only gives descriptions and prices in detail, but also tells how good vehicles are made—why they are better made my way—all running parts made of second growth Shellbark Hickory, split with the grain, not sawed across it, thus giving extra strength and long wearing qualities. It tells about one of my latest features—Sheldon Genuine French joint automobile springs, making the easiest riding buggy on the market—even riding over rough roads is a pleasure with a "Split Hickory."

Buying direct from the factory brings you in touch with the people who make your vehicle. My two years' guarantee is to you direct—my 30 Days' Free Road Test is to you direct—my price to you direct—no roundabout transaction as when buying through a dealer—keep the dealer's profit to buy other things with—all meaning a big saving and more satisfaction to you.

Will you let me mail you the book? Will you write for it today. Address me personally

H. C. Phelps, President,
THE OHIO CARRIAGE MFG. CO., STATION 23, COLUMBUS, OHIO

Split Hickory Vehicles Sold Direct from Factory to Home. 30 Days' Free Road Test—Two Years' Guarantee.

Write For Split Hickory Buggy Book Today-Free

Live Stock and Dairy

Essentials in Horse-Breeding

A KNOWLEDGE of the principles of breeding, and an intuitive ability, whereby the results of particular matings are anticipated, are essential to the successful breeding of horses.

The first step is to have in mind a definite type. This should agree with the types of horses that are bringing the best prices in the market. For instance, there are at least four types that are receiving notice—the saddle type, the road type, the carriage type and the draft type. Of these, the horse that would classify under the last group is generally the most profitable for the farmer to raise. However, the selection of a breed or type should in a large measure be a matter of individual taste and preference. The average farmer has neither the time nor the ability or opportunity to so train a light horse as to make him a salable animal in his own class. The draft-colt, on the other hand, develops into an animal more serviceable in farm work, and is salable and workable at an earlier age than one of the lighter breeds. Altogether, he is a safer proposition to the man who is not a master in the art of breeding, feeding and fitting for the sale-ring and market.

Yet where conditions are suitable, there is a bright prospect of success in raising carriage and saddle horses, as we have many good ones of this type from which we can select breeding-stock. The road-horse, if of the right kind, is salable. It is, however, a difficult matter to find a sire that will produce his kind uniformly, and one may well hesitate unless having the use of a horse with the character of whose progeny he is acquainted.

The Judgment in Selecting Foundation Stock

Having, then, one of the market classes in mind, the next step is the selection of a sire. While, to some extent, this is a matter of individual preference, it is always wise to take into account the class of horses most generally raised in one's own particular section. By thus agreeing to stick to some special breed, securing suitable mares of that breed, and using reasonable intelligence in selecting a sire, the district would in a few years become known for the class of horses adopted. Much higher prices would be obtainable than where only an isolated animal could be bought. Buyers would be attracted, and of course could afford to pay larger prices, when the required number of horses could be purchased in a small area than where a large tract of country had to be traveled over to secure them.

The mere decision of what breed shall be adopted is by no means the only essential to be observed. The selection of a stallion must very largely depend on the kind of mare with which he is to be mated. He should possess in a marked degree the desirable qualities in which she is deficient. This does not mean that only indifferent attention need be given in selecting a mare for breeding purposes, and that any defects she may have will be easily corrected in the offspring by the excellence of the sire. As a matter of fact, absolutely perfect animals are seldom, if ever, found. Recognizing this, progress can only be made by mating only the very best animals available, and seeking by judicious methods persistently followed through successive matings, and even generations, to remedy the weak points and reach out toward perfection.

Qualities That Are Desirable

No matter what type of horse is decided upon, both the sire and the dam should possess in the greatest possible degree quality, action, conformation and a good disposition. Quality, while not easy to define, is one of the most essential points in horse-flesh. By this term the horseman means functional ability—that is, the possession of characteristics indicating an enduring capacity for work and power to withstand wear and tear. It is usually recognized by a fineness of skin, silky hair, and an absence of all appearance of roughness or coarseness throughout the general anatomy of the animal. Sometimes a fine appearance of smoothness will tempt a breeder to take it as a guarantee of quality, and which, like charity, may cover a multitude of defects. When the fine skin and silky hair cover a bone that is large and clean, showing an ankle-joint which is very slightly larger than the pastern below or the shank above it; when the back tendons stand out large and strong, giving the leg a flat, cordy appearance; when the hoof looks thick, healthy and well nourished, and when the general appearance of the animal gives one the impression of quiet strength and capability, then we have the kind of quality the horseman wants in his business and is amply confirmed by the outward indications.

Action is another important point to look for. Certain peculiarities of gait are desired in each class, and there are certain defects that are objectionable in any class or breed. By selecting breeding-stock that are as nearly perfect as possible in this respect, much trouble and annoyance may be avoided from faulty action in the progeny.

In these days when fashion is so large a matter to be reckoned with in producing horses that are salable at good prices, one is apt to forget that action has really a practical value. It not only reflects a horse's temperament, but it also proves the balance of his conformation and indicates soundness, as it requires the presence of a dash and zest which makes light of the hardest effort, besides adding grace and smoothness to every movement.

Paddling, dishing, cutting or interfering are very undesirable and should not be tolerated in breeding-animals. The hocks should be carried well together. Abnormal width of chest will cause rolling in front, while a stubby, stilty front action indicates a too-straight pastern or shoulder, foot troubles or weak knees. Similar action of the hind legs point also to upright pasterns and unsound feet, and besides, is evidence of hock disease, weak stifles, hip weakness or kidney troubles.

Conformation of course varies with the type. There are, however, some things in common. The mare should be well ribbed and wide, with length, depth, ample heart-room and a good constitution. As the foals often take after their dam in constitution and stamina, it is very essential to select mares possessing these qualifications.

Desirable Characteristics in the Stallion

In the stallion it is not a question only of weight and size; attention must also be paid to the quality and formation of his limbs and locomotive organs. The typical draft-horse should be broad, deep, thick and round on short, strong-boned, clean legs, a conformation giving an appearance of symmetry and massiveness and suggestive of strength for heavy hauling. On the other hand, the requirements of the light horse demand that all impediments to speed and free action be eliminated and that the special kind of strength and endurance required for their accomplishment be cultivated.

While upright shoulders are not desirable in any class, a much greater slope is required in a light horse to give him ample leverage and strong control over his legs for fast, free, long-striding gait at the walk, trot or run. A short, strong coupling in any class is desirable, indicating constitutional strength and easy-keeping qualities.

Disposition has an influence on the value of a horse of any type. It should therefore be given consideration when selecting breeding-stock. There must be enough vim and snap in an animal to cause him to do his work as if he meant business, and withal a good nature that will render him easy to manage.

The head is the best outward indication of the disposition; it should be broad and flat between the eyes, and the latter large, full and mild. Energy, freedom from vice, docility, tractability and intelligence constitute the desired temperament.

In conclusion, I would like to emphasize persistence in breeding. When once the line of operation has been struck there should be no swerving from that line. Nothing can be gained by rushing from one breed to another. If the heavy mares do not produce good foals by a certain mating, then try another stallion of the same class. It is better to gradually work up the standard by breeding the small, tidy mare of good quality to a horse considerably heavier than herself, but not of the extremely weighty sort. Abrupt matings are often disappointing; a loose, leggy, shabby horse is too frequently the result. By thus working a steady improvement there will be more stability of type and less probability of reversion to previous inferior types.

J. HUGH MCKENNEY.

Sheep Notes

Sheep are particular about the water they drink. It must be absolutely clean, and they should have plenty of it at all times.

When one of the flock is noticed keeping to itself, an investigation should be made. Generally it will be found that the sheep is ailing. W. H. U.

Work-Horse Don'ts

Don't jerk the work-horse. The bit will make his mouth sore, and he will become nervous and annoy you more than ever.

Don't let the harness rub the horse's back. Put a pad under the back piece. Galling sores take the life from your beast of burden and cut down his flesh.

Don't work a misfitting collar. A sore or swelled shoulder will most certainly result. Then your horse will be on the pasture when you need him at the plow.

Don't neglect the galled place on the horse's shoulder. Wash it with clean water at night, and rub on some good salve. A soft pad will prevent the galled spots. It pays to buy them.

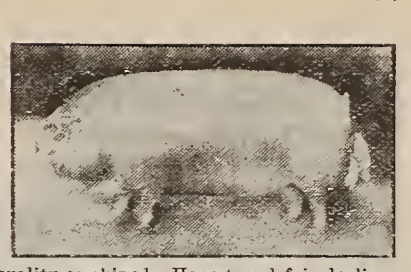
Don't make your work-horse drink stagnant water from an old pond just because you feel too tired to pump cool and clear water from a well or lead him a little further to a good spring. Horses, like men, enjoy good, cool water when they are tired and thirsty. The work-horse will do better on it, because he will drink freely.

Don't stay in the field too late. A man never makes anything by overworking his horse. He is certain to lose somewhere. The strain may put him off his feed, and you will be out of a horse for several days. A horse is worth from five to ten dollars a day to the farmer during cropping-time, and it pays to conserve his energies, that he may always be ready for the task in hand. A sick or dead horse can never aid the farmer at cropping-time.

Don't expect your horse to do good work on half feed. Plenty of grain and hay are essential. A horse that is worked hard during the day and compelled to work half or all the night for nourishment in the grass-field will not hold his flesh. Oats is the best one grain feed for the working season, but a mixture of corn and oats is better. The corn supplies the strength, and oats keep the bowels open. Clean clover or timothy is the best roughness. A pinch of salt in each feed seasons it.

W. D. NEALE.

For the best O.I.C. Swine that money can buy



Size and quality combined. Honest and fair dealings guaranteed. Prices right. Illustrated catalogue free. It will be to every farmer and stock growers' profit to make inquiry at once. Address:

M. L. BOWERSOX COMPANY
R. R. 4, Box 9 Bradford, Ohio

Shoo Fly The Animals Friend

Keeps off flies and insects in pasture longer than any imitation. **Kills every fly it strikes!** Protect your stock and they'll take on flesh. Cows give ½ more and richer milk, and horses do more work on less feed. ½c. worth saves 3 qts. milk. 1 gal. protects 3 animals a season. **Cures all sores.** Prevents itching. Nothing better for galls. Used by leading veterinarians and dairymen since 1885. **Kills lice and mites.** Accept no substitute. If your dealer hasn't it send his name and $1, and we'll send enough Shoo-Fly to protect 3 animals 30 days and improved 3-tube gravity sprayer. Name express office. $1 refunded if animals not protected. Shoo-Fly Mfg. Co., 1316 N. 10th St., Phila., Pa. Agents wanted everywhere. Special terms. Write today.

FARM AND FIRESIDE guarantees Shoo-Fly to be O. K.

SILOS

that make and keep *real* ensilage; that have the utmost strength, convenience, and durability; that are used by the United States Government. Send for free catalogue.
HARDER MFG. COMPANY, Box 31, Cobleskill, N. Y.

Post-Card Albums Without Cost!

A FINE 108-card album with 36 large pages and attractively bound. Just the thing for your post-card collection. Sent post-paid, **Absolutely Without Cost.**

Send us only two yearly subscriptions to FARM AND FIRESIDE, and in return we will mail you one of these desirable albums. Send at once.

JOHN L. THOMPSON, Sec'y, Springfield, Ohio

Freight Prepaid On Breese Bros. Rubber Roofing

DON'T spend a dollar for roofing until you have seen and tested the old, reliable **Breese Bros.** guaranteed waterproof, fire-resisting, durable **Rubber Roofing.** Made by our own special process, of long-fibre wool felt, saturated in asphalt. Heavily coated on **both sides.**

Free Cement and Special Roofing Nails inclosed in each roll. Hammer lays it. Use on ALL Buildings

Send for Free Samples and Booklet
Get these samples of 1-ply, 2-ply and 3-ply roofing. Put them to every test you can think of and prove to your own satisfaction that **Breese Bros. Rubber Roofing** is the highest quality roofing on the market. We give the

Longest Guarantee
Send for samples or order now on our strong guarantee of satisfaction or money back. We pay freight to all points east of the western boundary line of Minnesota, Iowa, Missouri, and north of south line of Tennessee. Don't delay ordering; these special prices may not be offered to you again. Take advantage of them and write now, today.

Lowest Factory Prices
Freight Prepaid on 100 lbs. or more
35-lb. Roll—108 Sq. Ft.—1-Ply $1.35
45-lb. Roll—108 Sq. Ft.—2-Ply 1.85
55-lb. Roll—108 Sq. Ft.—3-Ply 2.25
Order today, or write for Samples and Booklet

THE BREESE BROS. CO., Roofing Dept. 24, Cincinnati, Ohio

The Aristocrat of Moderate Priced Cream Separators

We are often asked the reason for the great success of the
United States Separator
In a nut shell it is this:

U. S. Cream Separators are made of the best material, are most thorough in skimming and most durable in wearing qualities.

Every UNITED STATES owner will stand back of these facts.

In every line there is one best. Why? Because that one is the standard. So it is with Cream Separators, the **United States** is the **Standard Cream Separator.** Many thousands being operated in all dairy sections have established its value.

Promises and performances. There are cream separator manufacturers that promise great things—on paper—but in actual daily use their machines cannot fulfill their glaring claims.

When some glib salesman claims he has something equal to the **United States,** make him show you proof. *It is one thing to make a claim and another thing to prove it.*

The United States has the proof. For it ***Holds the World's Record*** for closest skimming in fifty consecutive runs, covering one month, at the Pan-American Exposition from the milk of ten different breeds of cows, a record never having been equalled.

Before you decide examine the **United States** carefully. Ask any of the thousands of satisfied users and get their verdict, then have a **United States** selling agent place a **United States** in your dairy on free trial and it will prove all claims.

In the meanwhile send for illustrated Catalogue No. 69.

VERMONT FARM MACHINE CO., Bellows Falls, Vt.

SUBSCRIPTION PRICE

One Year (24 numbers) . . . . 35 cents
Four Years (96 numbers) $1.00
Canadian Subscriptions . { 1 Year, 60 cents / 4 Years, $2.00

Entered at the Post-Office at Springfield, Ohio, as Second-Class Mail Matter.

Subscriptions and all editorial letters should be sent to the offices at Springfield, Ohio, and letters for the Editor should be marked "Editor."

The date on the address label shows the time to which each subscriber has paid.

Subscribers receive this paper twice a month, which is twice as often as most other National farm journals are issued.

Silver, when sent through the mails, should be carefully wrapped in cloth or strong paper, so as not to wear a hole through the envelope.

When renewing your subscription, please say it is a renewal, and if possible send the label from a recent copy. If all our subscribers will do this a great deal of trouble will be avoided.

PUBLISHED BY
THE CROWELL PUBLISHING COMPANY
SPRINGFIELD, OHIO
Branch Offices: 11 East 24th Street, New York City.
Tribune Building, Chicago, Ill.
Copyright, 1909, by The Crowell Publishing Company

ABOUT ADVERTISING

Farm and Fireside does not print advertisements generally known as "readers" in its editorial or news columns.

Mention Farm and Fireside when you write to our advertisers, and we guarantee you fair and square treatment.

Of course we do not undertake to adjust petty differences between subscribers and honest advertisers, but if any advertiser in this paper should defraud a subscriber, we stand ready to make good the loss incurred, provided we are notified within thirty days after the transaction.

Farm and Fireside is published on the 10th and 25th of each month. Copy for advertisements should be received twenty-five days in advance of publication date. $2.00 per agate line for both editions; $1.00 per agate line for the eastern or western edition singly. Eight words to the line, fourteen lines to the inch. Width of columns 2¾ inches, length of columns two hundred lines. 5% discount for cash with order. Three lines is smallest space accepted.

Letters regarding advertising should be sent to the New York address.

The Coöperative Elevator Movement

We take pleasure in presenting to our readers the special article in this issue on the Farmers' Coöperative Elevator Movement.

The struggles and successes of a comparatively few of the grain-growers of the country furnish an object lesson worthy of study and an example to be followed by all of them.

In a high civilization, division of labor—specialization—is the order of the day, and it ought not to be necessary for the men who raise the wheat and corn to become warehousemen and shippers. But it is. Intolerable evils have grown up under the present system of handling grain. In order to get something nearer an honest price for their grain it has become absolutely necessary for the growers to form associations and ship their own products, ridding themselves of some of the common evils of the trade.

After years of struggle and sacrifice the pioneers in the movement demonstrated what could be done, and encouraged many others to join them, so that now the movement is under good headway with increasing momentum.

As Mr. Streeter says, "The object of the coöperative elevators is not primarily to make money for the stockholders. The object is to secure a fair and honest price for the grain crop." It is that, and more. It is a struggle to get a living wage.

According to the statistics of the Department of Agriculture the annual average yield of wheat in the United States for the ten-year period 1897-1906 was 12.69 bushels an acre; and the annual average farm value was only $9.48 an acre. This low average is actually below the cost of production in no small part of the country. The margin of profit was so small even under favorable conditions that growers were literally forced into coöperative marketing to save a few cents on each bushel so that they could make both ends meet.

Land and Irrigation Exposition

There will be held in the Chicago Coliseum, November 27th to December 4th next, the United States Land and Irrigation Exposition, the first one of its kind.

The plan for holding this exposition originated with various railways, land interests and colonization agencies having their headquarters in Chicago, and is backed by various financial and business interests of that city.

The purpose of the exposition is to interest homeseekers in the settlement and development of various regions in the West and Southwest by showing them what is being done in the semi-arid country under the Campbell system of soil culture in some districts and under irrigation in others.

As one of the most instructive parts of the exposition it is expected to have the United States government exhibits now at the Alaska-Yukon Exposition dropped off at Chicago on their way back from Seattle to Washington. Of these exhibits the display made by the Reclamation Service will be particularly appropriate and interesting.

In brief, the exposition will furnish land-seekers a fine opportunity to make a general and comparative study of the various regions of the West and acquire information about their respective resources, products and home-making opportunities.

The Land and Irrigation Exposition will open at the same time as the annual International Live-Stock Exposition, thus affording a double attraction to hundreds of thousands of Chicago visitors.

A Land-Hunger Antidote

Not for years past have there been displayed such symptoms of land hunger as at present. There are many good reasons for it, but we wish now to touch another feature of the subject. Incidental to the genuine movement of actual homeseekers to regions now being opened up by the Reclamation Service or being successfully developed by the application of "dry farming" there is great activity among an irresponsible and unreliable set of agents selling lands under various investment schemes. Let them alone.

The government officials engaged in the Reclamation Service are as sincerely anxious for the future welfare of the home-makers in the new districts as they are for success in the construction of the dams and ditches by which the life-giving waters reclaim the desert. In striking contrast to the deceptive allurements held out before the public by sharp land-boomers come the timely warnings from the government. Here is one to be heeded. It is by F. H. Newell, director of the United States Reclamation Service:

> "The irrigated countries are no place for the poor farmer. The man who goes there must use his brains in all his farming. He must be willing to learn.
>
> "He must work hard and he must have some capital. The man who does this will not make any fancy fortune, but he will make a very good living for himself and his family and he will establish a home."

There's the plain truth about it. These words are worth all the wealth of any man who has listened to the seductive talk of the land speculator and is almost persuaded.

Now here is another warning from a man interested in the success of the settler in the "dry-farming" regions. It is by John T. Burns, secretary of the Dry-Farming Congress, recently held. He says:

> "Dry farming is a success in many of the Western and Southern states. It is rapidly becoming almost an exact science, and even where the precipitation is only seven and one fourth inches, in Texas, careful cultivation under dry-farming methods is making the land pay handsomely. But this kind of farming requires a little capital and considerable study. After a man has made his first payment and has his family and household goods on the ground he should still have at least one thousand dollars left to buy machinery, three horses and enough to live on for a year or eighteen months. It takes at least this long to develop a dry farm. Some land men are bringing people into the West with little or no capital. For such settlers on dry farms there can be nothing but failure and pauperization. The whole West is injured by these failures, and that is why we want to prevent them. The Dry-Farming Congress is investigating to find out the quantity of land and the districts or divisions in which this kind of farming is possible. We are doing this also to prevent frauds upon the land buyers."

These are golden words, too, for all investors who will heed them.

Undoubtedly there are many fine agricultural opportunities in the semi-arid regions for industrious men who have sufficient capital and knowledge and who will use their brains, but it is positively diabolical to induce a man with insufficient capital to buy land and attempt to make a home when circumstances doom him to certain failure. The loss of his little store of money is the least of the misfortune; the serious and pathetic part is the privation and hardship that fall on wife and children.

Revenue Tax on Dividends

Said one school urchin to another, "Give me a bite of yer apple, Ikey."

"G'long, I've only got one."

"Then give me the core."

"Sammy, there ain't goin' to be any core."

As a tactical move to prevent the adoption of an inheritance or an income tax amendment to the tariff bill, the Aldrich finance committee proposed an annual revenue tax on corporation funds available for dividends to stockholders.

How the high-financiers must have laughed up their sleeves at this scheme, and silently approved their guardian angel. A tax on dividends! Why, whenever they choose, those shell-game adepts in the art of juggling corporation books can make "funds available for dividends" disappear as if by magic under "expenses of management," "betterments," or some other convenient items. "Sammy, there ain't goin' to be any core."

Back Talk to Lewis

Letters From Readers

Editor of Farm and Fireside:—

The only drawback to your farm paper that I see is the amount of good space taken up by Alfred Henry Lewis. It seems to me that it could be used to a much better advantage.

Washington. Mrs. Jos. Tisseur.

Editor of Farm and Fireside:—

I appreciate the effort made by you to get your readers thinking on vital questions of the day, as shown in Lewis' letters and your editorials. I hope you will continue them if you can without letting your paper degenerate into a political organ working in the interests of the trusts and combines, as are practically all the papers of the country.

Indiana. R. E. Zorne.

Editor of Farm and Fireside:—

I like the Farm and Fireside very much. Tell Mr. Lewis to keep the good work going. I like to see the rottenness exposed. I think it is just what the people need. Some of our readers do not like Mr. Lewis' talk. Probably it is because he is tramping on their toes a little too hard. Some people do not like to see the rotten side exposed. Tell Alfred to use his lancet with all his might. Do not by any means discontinue his talk. It is the best part of Farm and Fireside.

Ohio. R. W. Kersey.

Editor of Farm and Fireside:—

Drive ahead! Cut into the gamblers! Show them no mercy! It is a shame and disgrace to the country that gambling in farm products has not been stopped by legal means long ago.

On receipt of Farm and Fireside, the first thing I turn to is your leading article. Next Mr. Lewis has my attention. Mr. Lewis' article on Mr. Harriman was particularly attractive to San Antonians, because Mr. Harriman camped within half a mile of where I am living. Mr. Chas. W. Fry does not want so much about politics. It is where the farmers have got left, by not knowing nor caring to know what was going on in the political world.

Texas. F. G. Smith.

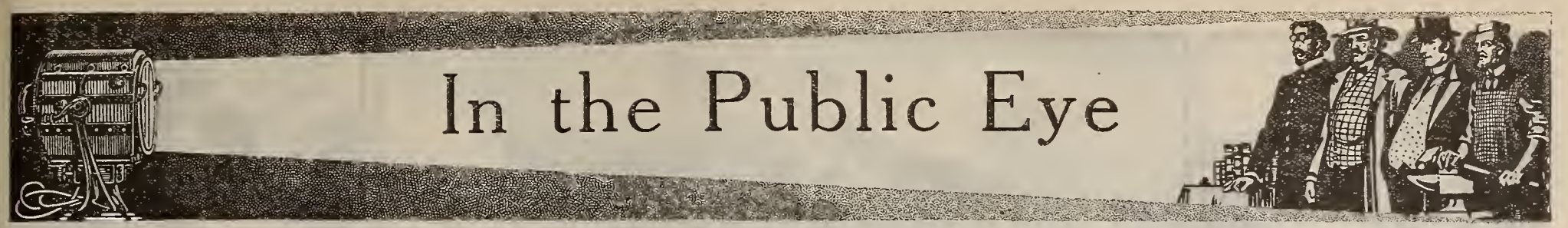
Editor of Farm and Fireside:—

A recent contribution of Lewis brings up the railroad question, one under existing conditions in which farmers who furnish eighty per cent of the traffic have a vital interest. With all efforts to regulate the charges of these common carriers nullified by the courts on the ground that to lower charges for service would work confiscation of these properties, the pen of Lewis is needed to jar loose the mental machinery of the public.

With the civil engineers of the Sante Fe Railroad making affidavit that the construction cost nine thousand dollars a mile, with those of the Union Pacific Railroad filing a sworn statement with the executive council of Utah showing the cost of construction to have been less than seven thousand dollars a mile within the state, and with the declaration of the civil engineer having in charge the construction of the Kansas City, Fort Scott & Memphis Railroad that it cost to build and equip it, thirteen thousand five hundred dollars a mile, the question of valuation as a determining factor in adjusting traffic charges becomes vital.

As a fruit-grower and farmer, I shipped two carloads of apples in 1906 from Olden, Missouri, to Houston, Texas, the transportation charge being fifty-eight cents a bushel. The freight charges on the last car of one hundred and eighty-five barrels was one hundred and seventy-two dollars. Out of the car-load we realized a net return of one dollar and nineteen cents. When in Houston we learned that apples from the orchards of western New York were being laid down at forty-two cents a hundred, in car-lots, over the Wabash Railroad. "Lay on McDuff."

Missouri. J. M. Stoke.



In the Public Eye

By Alfred Henry Lewis

If you don't agree with Mr. Lewis, "talk back" to him, confining your reply to two hundred words. We shall hope to publish some of these replies from time to time.—THE EDITOR.

DURING WHAT RECENT AFTERNOONS I have leaned my chin on the Senate gallery rail, and gazed upon greatness in the transactions of its destinies, two figures on the floor below came to interest me much. These were Mr. Root and Mr. La Follette—in kind and attribute as far separated as are the poles.

It is Mr. La Follette who has been making trouble for Mr. Hale and Mr. Aldrich and the other Senate high-priests of Money. It is Mr. Root who defended them. And yet so little are folk to be blamed in this blundering world of ours for what they do and say that I doubt not but both Mr. Root and Mr. La Follette performed in all things as Providence had designed should be the case. It is as well. There is safety in opposition; danger lurks in the unanimous. When folk go all one way the boat tips over.

Will Mr. La Follette overthrow the Hales and the Aldriches? Yes; he will have them finally in his grasp as surely as he has Wisconsin in his grasp. In how long or how short a space? A year, perhaps. The Senate is a slow place to fight in—like a swamp.

The rule of the Hales and the Aldriches is waning to a close: Their fustian assumptions, their cardboard insolences, will not bear up against the Wisconsin battle-ax. There is, I should say, a good time coming for all that belongs on the sunset side of the Alleghanies. By every Senate sign and hilltop smoke, the Eastern dog has had his day, the Western dog's is dawning.

Consider the story of Mr. La Follette—consider his strain and fashion as a man. It may aid you in concluding whether I am right or wrong in saying that the present skirmish is but the beginning of a struggle which will end by the West displacing the East in the saddle of Senate destinies. Mr. Aldrich and Mr. Hale are, as you well know, the present ruling forces of the Senate. Mr. La Follette intends to shove them both aside, and with them Mr. Lodge, Mr. Gallinger, Mr. Tillman, Mr. Daniel and what others are among their camp followers, and take command himself.

* * *

THE LA FOLLETTE MOTIVE? AMBITION. Mr. La Follette fights Money. But he fights it not from a principle, but as a method, as Aaron Burr fought Money. It is the short cut to a following. Likewise it pleases him to fight Money. He hates it for its insolence and because its effort is to make slaves of men. The La Follette effort is to turn men into soldiers.

The difference between Mr. La Follette and Money is radical and not to be bridged. He looks for power, Money looks for profit. It is the difference between a paladin and a pawnbroker. Had Tacitus known Mr. La Follette he would have said of him, as he did of the Germans, "Others go to battle; he goes to war."

That is the fashion of man who has set himself to be master of the Senate. He will take every advantage that the Hales and the Aldriches offer him. He will come, and keep coming. They will never be rid of him, once he has found the passes through the Senate Alps. Nothing short of their utter surrender will satisfy this Brennus.

To Mr. La Follette the world separates into two classes—his followers and his foes. At that, he doesn't lead; he drives, and walks behind his people so as to make them fight beneath his eye. Let one show weakness, he strikes him down. For he holds failure to be the highest form of treason.

In the cold and steady desperation of his valor, in his soldierly skill for organization, in his unflinching egotism that never hides and scorns to be concealed, Mr. La Follette is another Napoleon. Formed to crush, but not conciliate, he will never fall by virtue—or vice—of any sympathies nor find defeat because he failed to strike. He will run no risks which he can force the foe to take. No viper warmed upon his hearth will ever strike him, since he will invite no one, admit nothing, to the hearthstone of his confidence.

All these Mr. La Follette is by nature; all these he does because he must. Life is real, life is earnest, life is all uphill to him. He likes mountains, delights in precipices. Mountains weed out the weak who fall exhausted by the wayside. Precipices are as so many open chances to push overboard an enemy. Fighting bosses, he is himself the biggest Boss between the coast lines of the country.

* * *

IT BEARS A PROFIT to turn the pages of a man's career and study them as I might a book. Mr. La Follette was born at a Wisconsin cross-roads hamlet called Primrose, not a day's walk from Madison. His father was a farmer. The latter died when Mr. La Follette was hardly tall enough to reach up to the plow-stilts. After the father died, the boy La Follette lived in the one-story log house with his mother, and together they did the best they could with the farm. Nights he explored books. When Mr. La Follette was eighteen, his mother sold the farm. They moved to Madison. There he went to the State University. Likewise, he studied law.

Mr. La Follette's lighter reading took the form of Shakespeare. The French blood stirred within him and he felt like a coming Coquelin. Five foot five, he consulted John McCullough. That six-foot tragedian looked him over, heard him declaim.

"You have genius, but not inches," said McCullough, and Mr. La Follette—who hadn't seen Lawrence Barrett nor heard of David Garrick—turned his convinced back on the stage and accepted the law.

Mr. La Follette was elected county attorney for Dane. He went to Congress, and was of the Ways and Means Committee that framed the McKinley Bill. Also, he went down beneath the landslide provoked by that tariff measure plus a "billion dollar" Congress. Now we are on the brink of a "three billion dollar" Congress, but nobody minds.

Three times Mr. La Follette has been governor. In 1905 he caused himself to be elected to his present Senate seat. His term will expire in two years. He will be reëlected, for he is dictator in Wisconsin's political affairs.

How did Mr. La Follette mount the office ladder I've described? He fought his way up rung by rung. He fought Senator Sawyer, and was beaten, but wouldn't stay beaten. He fought Senator Spooner, and was beaten, but wouldn't stay beaten. Mr. Sawyer died; Mr. Spooner grew weary; here still is Mr. La Follette, as tireless and as blood-hungry as one of his home state's own black timber-wolves.

Mr. La Follette has a square, smooth, hard, indomitable face. It is the face of one who has seen trouble, is looking for more trouble, and would be unhappy if he didn't find trouble. His eyes are level, hard, steady, unblinking. There is no mercy, no kindness, no generosity, but a mighty resolution second only to a mightier egotism in those eyes. They never laugh, they never weep, they never waver, they never yield. And they are always glancing about for something to claim, something to take possession of, something to go to war over.

Mr. La Follette is money honest. He wouldn't touch a dollar with a stain on it. Also, he doesn't care for money—doesn't hanker to be rich. Mr. La Follette wants the power. Of mere power he will never have enough. In his hunt for power Mr. La Follette has no friendships. He is a David without a Jonathan, a Pythias without a Damon.

* * *

HERE IS THE OTHER PICTURE. Mr. Root is trim, springy, dark. He has no baldness, bangs his hair. The latter and a stubby mustache are shot with gray. He dresses accurately, has no bad habits, no bad manners, never jars the nerves. If he have sympathies, he suppresses them. If he feel an impulse to be confidential, he beats it down. He was never charged with treachery, mendacity, benevolence, economy, malice, tenderness, charity, parsimony or letting a dollar get away.

Mr. Root likes color, and knows paintings. He likes books, and knows authors. He likes horses, and is much in the saddle. Also, Mr. Root plays golf. Mr. Root dresses himself as carefully for these rites of links and saddle as any belle for any ball.

Mr. Roosevelt had a high opinion of Mr. Root and often asked his advice. Mr. Roosevelt asked more advice while taking less than any man alive.

Mr. Root in his banks is both narrow and steep. That bank-narrowness, bank-steepness, gives depth and current to his nature. Were he wider or with banks of easier slope, what nature he possesses—it is less than some men's—would thin out into the futile, spread itself unprofitably about, accomplish nothing, carrying nowhere, to end tricklingly in the sand. His strength appears only when he deals with circumstances, never when he deals with people. He is a bad judge of men, a good judge of things, and knows as little of humanity in the herd—its struggle, its aspiration, its direction—as he does of the theology of the man in the moon.

While calling himself a Republican, Mr. Root goes off now and then at a gracious slant toward mugwumpery. A mugwump is one who, blind to the beam in his own eye, is keenly alive to the mote in the eye of the man next door, and insists that it is his bounden duty to seize upon that moted one and—whether he will or he won't—bear him away to an oculist.

Mr. Root does not believe that what is sauce for the poor man's goose is sauce for the rich man's gander. The mass of humanity he knows nothing about. As a problem he cannot solve the herd. He disbelieves in the popular intelligence, in the popular heart. The doors of his nature are closed and bolted and barred against every lesson of the popular. If he might, he would have the public before some surrogate, and get a guardian appointed for its person and property, especially the property. Then he would rule it as should be ruled a half-spoiled child of bad temper and worse tendencies. Mr. Root can't fathom the workings of the popular mind. You could no more get him to trust himself alone with the public than to thrust his hand into the fire. He did once; that was years ago. Mr. Root ran for a judgeship, and the people tore him to pieces. He never asked their suffrages again.

* * *

INCESSANT, STEADY, TRANQUIL, without hope, without fear, a kind of machine-man, Mr. Root has plowed the undeviating, unremitting furrow of his existence. Born for law rather than humanity, he has been—and is—a wizard at spun-glass technicalities, and like a skilful wrestler tripped up many of strength superior to his own. He is not a great man, not a big man. He is like a dagger of thrice-tempered Toledo steel. You could kill a man with him, but you couldn't drive a nail with him.

Mr. Root's mind is not a man's mind, but a lawyer's mind. He is not, in the sense of a Franklin or a Lincoln, what the world would call a patriot. When he holds office, the country is merely his client. Also, no attorney dies for his client. Or loses money for his client.

Mr. Root has this in common with an iceberg, that nine tenths of him is out of sight. He not alone has a genius, but a passion for secrecy. Also, he is the sort of man of whom, while you never hear anything, you are prepared to hear everything. Mr. Root could no more be open, frank, accessible, than a burglar-proof safe could be open, frank, accessible. He is coldly suave with the cold suavity of ice. He doesn't offend, and yet you quickly let go of him. Like some soundless, windless freezing day of winter, he is not boisterous, is in nothing violent; but all the time the thermometer shows "zero" weather, and you feel it. You don't stay to enjoy that sort of day. With swimming eye, ears a-tingle, you get inside as quickly as you may, and crowd about the kitchen fire, where if you miss the landscape in its beauty, you also miss that unthawed zero cold. And so with Mr. Root. His explorers have been few, and those were so fur-lapped as to eye and ear and hand that they returned to tell us nothing.

Men know so little of Mr. Root, that of his many biographers, one described him as shrinking from printed criticism like any tenderest girl, while another insisted that he cared no more for words of harshest note than for bleating sheep on Annandale's far slopes.

This power of concealment, that is like a fog or a cave or a midnight, and never lets you see, with the added quality—absent in caves or fogs or midnights—that it never lets you hear, has misled many in their estimates of Mr. Root. Some have mistaken it for humility, others for modesty, while others—farthest off of all—have thought that he was timid.

* * *

AS BETWEEN MR. ROOT AND MR. LA FOLLETTE, the latter is the stronger personality. The difference between them is the difference between a sword and a sledge. The sword has finish, edge; the sledge has weight, inertia. When they clash, the sword breaks, the sledge remains.

Signaling Under the Sea

The Story of the Submarine Bell

By Richard M. Winans

From the time that the giant engines of the ocean greyhound begin to throb, turning over the great shaft at whose outer end is the big-bladed propeller that is to bore a hole in the ocean to another port far overseas, there is a trained hand on the steering-wheel in the pilot-house up on the bridge. That hand is always there, watchful, vigilant, responsible for the lives of thousands.

But behind the hand on the wheel there is a directing intelligence and the guiding sense of sight when it is day or under a cloudless, starlit sky, but only by the sense of hearing when lowering clouds sweep black across the tumbling sea, or a mantle of fog settles its heavy blanket of confusing obscurity about the ship and its surroundings.

And in that broad, spreading mantle of obscurity stalks bold and ever menacing the greatest danger to those who go down to the sea in ships, the great bugbear of the mariner of all times, a collision of vessels at sea in a fog.

To guard against this danger of being rammed and sent to the bottom in a fog there has been until recently nothing more effective and serviceable than the blowing of the steamer's whistle or the sounding of the blatant, nerve-racking siren to warn other vessels of approach in a fog. While these noises in the air have served the purpose in a way, their service has been limited.

One of the greatest disadvantages that limited the usefulness of the whistle and the fog-horn and siren has been the fact that at times it has been impossible to locate the direction of the sound, owing to the peculiar tendency of air-currents at sea to deflect sound; and another an atmospheric condition often encountered at sea, known as "silent zones," in which sound does not carry, or only in one direction, if at all. Because of this, ships in a fog, with sirens sounding, have closely approached, and even collided, before the slightest sound of warning was heard by either.

How the Submarine Bell Has Lessened Dangers at Sea

But the bugbear of the fog to the mariner is passing, will have passed, when all the ships that sail the Seven Seas have installed in their signaling service the latest invention, the submarine bell.

The submarine bell is a positive, powerful, trustworthy and easy means of signaling from ship to ship at sea and from light-ships and shore along the coast to approaching ships in fogs and heavy weather.

This new arrangement for submarine signaling is nothing more than a heavy bell rung under water, the sound being carried through the water and heard through the medium of a delicate but simple receiver on board any ship within a radius of ten to fifteen miles and more.

One of the greatest, if not the most decided, advantages of this means of signaling is that not only the exact direction from which the sound comes may be determined, but that a trained ear can determine almost the exact distance at which the sounding-bell is located—within a quarter of a mile in a radius of eight or ten miles, and within a couple of hundred feet in a radius of a couple of miles.

No other "blind" signaling has ever attained anything like perfection in this particular point.

At the time that wireless telegraphy was put into practical use it was probably the most valuable legacy ever given to the ships at sea, and nothing yet dreamed of will detract one whit from its value. But even the wireless has its limits of usefulness. While it may send its message quivering through the air for over three thousand miles, and be understood as readily as though it started but a mile away, yet the operator receiving the message cannot tell whether it comes from north or south or east or west, or the distance within a measurable number of miles, unless the sender give such information in his message.

When the weather is clear the exact location to seconds of latitude and longitude may be given, and a vessel on an errand of rescue could steer her course as the crow flies to a vessel in distress until she hove in sight. Then to approach would be easy.

But in a fog, that's very different! A vessel can give her approximate location when calling for help when in a fog, but the estimated reckoning may be miles and miles from being correct. And the rescue-ship approaching in the fog is under the same disadvantage, in that she is no better able to determine her bearings or to advise the imperiled ship of her exact position by wireless.

This particular limitation of the wireless was very decidedly brought out when the "Republic" was wrecked in collision with the "Florida." Jack Binns, the "Republic" operator, was able to send out his wireless call for help that was answered by nearly every ship within two hundred miles, among them her big sister ship, the "Baltic."

The "Republic" was equipped with the receiving apparatus of the submarine signaling system, and hearing the submarine bell of the Nantucket light-ship, was able to give her location very accurately, but approaching vessels could only make a close guess as to their own and the "Republic's" location.

For this reason it took the "Baltic" over twelve hours to find the "Republic" in the blanket of fog, and during that time the "Baltic" traveled over two hundred miles within an area of ten square miles. As it was, the light-ship submarine bell told them both that they were in her neighborhood, and the "Baltic" could only grope her way about in the fog in a tense game of blindman's-buff looking for the "Republic."

Vessels Steered by the Sound of the Submarine Bell

To demonstrate how accurately a vessel may be steered by the sound of the submarine bell, an interestlng experiment was made outside the harbor of New York recently. The sea-going tug "Eugene F. Moran" was equipped with the receiving apparatus of the submarine signal and taken out several miles in the open sea beyond the new Ambrose channel light-ship. The object was to steer the tug in a line to the light-ship by means of the sound of the submarine bell, which the light-ship was sounding.

Arriving at the turning-point, the man who was to act as pilot was securely blindfolded, after which the vessel was circled and turned in various directions, to confuse the blindfolded pilot as to his bearings.

Almost immediately that he placed the receiver of the submarine signal to his ears, however, he told the man who handled the wheel at his direction which way to turn the wheel and head the vessel. He was never in doubt for a moment after he caught the first sound of the light-ship bell.

The wheel was never moved except at his command, and he held the course of the vessel in a direct line for the bell on the light-ship until within one hundred and fifty feet of the ship, when he called the distance and directed the wheel put over, to avoid collision. And he had headed his vessel so accurately for the bell that it would have collided with the light-ship had it not been turned about in time. Although the trial was over a course of only three or four miles, they could have gone out twelve or fifteen miles or more, and the pilot could have brought in his vessel just as unerringly and with the same result.

This experiment leaves no possible doubt of the value of the submarine bell for signaling in a fog; of its use for exact and positive signaling between ships within a radius of less than eighteen miles.

The submarine-bell signal means, in a word, that by its use there need never be another collision in a fog at sea.

And that means the saving of billions on billions of dollars in ships and cargoes, beside the greater saving of lives, upon which no estimate in dollars and cents can be made.

The submarine bell means to the traveler a safer voyage on sea than he can make by land, times and times over, for even now it is safer to travel on a modern ocean liner than on a railroad train.

Captain Moran, head of the Moran Transportation Company, said to the writer, "The submarine bell is the greatest thing that has ever been given to sea-going traffic. Of all the contrivances and appliances that have been invented looking to the safety of ships at sea, this one thing stands preëminent and alone. For its purpose it is all-sufficient without any auxiliary safeguard, and when the coast-lines of the world are equipped with these bells at intervals, and the shoals and rocks and ledges are marked by them, there will be no occasion for any ship to go aground because she has lost her bearings in a fog."

Mechanism of Signaling Apparatus is Most Simple

The submarine bell's signaling apparatus is very simple—not so complicated and delicate in its mechanism as the ordinary telephone, in fact—and costs comparatively little. The complete outfit for a ship, including the sending and receiving apparatus, can be installed for about two hundred dollars, which, considering the safety it insures, is an inconsiderable item of expense.

The bell proper weighs about two hundred and fifty pounds and is three inches thick. From a vessel they are lowered over the bow to a depth of twenty-five feet or more, and along the coast they are suspended on tripods at a depth of about one hundred feet. From the shore they are operated by electricity and from vessels by either electricity or a compressed-air tank directly over the bell. They may be operated by electricity at almost any distance that a current will carry, so that a line of bells many miles long can be operated from one station along a coast.

When the clapper is made to strike against the bell, the sound is carried through the water for many miles, the waves of sound striking against the sides of the vessel, to which is fitted the receiver.

The receiver is a glass tank about eighteen inches square filled with salt water and clamped tightly to the outer wall, or "skin," of the ship, one on either side, about eighty feet from the bow and close to the keel. Suspended in the water of the tank is a microphone, resembling the transmitter on a telephone, and from this wires are run to the telephone receivers in the wheel-house up on the bridge.

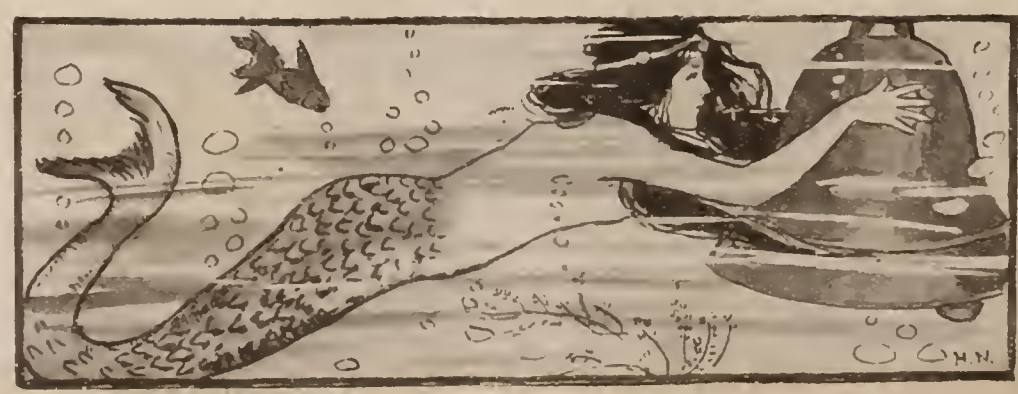
Sound-waves travel much clearer and faster and farther in water than in air, so that the clang of a bell rung under water, say fifteen miles away, is carried in sound-waves until it strikes the receiver in the hold of the ship. These are conveyed through the salt water in the tank to the transmitter, and thence up to the ear of the man listening at the telephone receiver on the bridge.

An indicator on a dial shows whether the sound comes from the port or the starboard side of the vessel, and also the angle at which it strikes the receiver. By heading the vessel in the direction of the sound until it strikes the receiving-tank on the opposite side at the same time, the navigator knows that the bell is located dead ahead, and the volume of the sound will indicate the distance from it. The vessel is then able to steer for or away from the bell, as desired.

The light-ships along the coast of the United States are all numbered, and during a fog and heavy weather they toll out their numbers at intervals on the submarine bell. The bells on the shoals and rocks and at the entrance to harbors operated from shore by electricity are also numbered, and when the ships of the navy and the merchant marine are equipped, they will each have their individual numbers, which will be sounded when running through a fog-bank, and at such other times as may be necessary.

In the case of the light-ship bells and the bells along the coast and at the entrance to harbors, it will only be necessary for the navigator to refer to his chart or directory of submarine bells to learn the name of light-ship, reef, shoal or harbor entrance, after hearing the number tolled, and he will then be in a position to put a pin-point on almost the exact spot on the map where his ship lays.

Although our coast-line is pretty well sprinkled with submarine bells on shoals and reefs and dangerous rocks, and although between five and six hundred vessels in the merchant marine of the various nations already are equipped with submarine receivers, the vessels of the United States navy are not yet fitted with them.



Christ—the Master

A man who is a Christian cannot be his own master. This is part of the cost of Christian discipleship. It is not a heavy cost, however, for no other man can be his own master, either. The only difference is that the Christian openly acknowledges his master, as the others often do not. A score of influences are ready to offer themselves at any moment for the ruling place in every man's life, and some one or other of them he is sure to accept. Therefore it is that the Christian, instead of needing pity, is to be congratulated, for the master that he acknowledges is one who can rule all the rest, and is absolutely worthy to be followed.

A master must of course be supreme or he is no master. Christ demands the ruling place or none at all. He will not divide the honors with any one or anything. A young man who thought he had been converted in some special meetings, joined the church, and for a while left his old companions. It was not for very long, however. The church people "froze him out," to use his expression. He contended that they did not make him feel as much at home as they might have done. They were at fault, without doubt; but the young man was more so. Instead of following Christ, he was following his own longing for social recognition.

And this is sometimes the case with prospective church-members, and again with those who are already members. Instead of being controlled by their own or their fellows' mistakes and offenses, all men still need to give to Christ the control of their lives. Christ is not divided, nor has Christ offended. Shame the day, then, when any man called a Christian could be turned away from the Master by a fellow-disciple's fault! Judas is not our leader, no, not even Peter, but Jesus the Christ. Not until the honest conscience has found a flaw in Him need any disciple think necessary to leave the fellowship of the followers.

Christians are fallible, of course. In fact, that they should know they are liable to mistakes is one of the necessary conditions of discipleship. Jesus said that He came "not to call the righteous, but sinners." We take Him as our Master because we need a master; we become learners of Him because we know we have much to learn. The man who "knows it all" is not welcomed at any place of learning, and the self-satisfied man cannot make an acceptable candidate in the school of the Christian life.

On the other hand, to have Christ as a master insures advancement to the weakest if they will but trust Him. It has often been those who knew their own weakness best who have been able to go with Christ to the highest service. Just as Paul was able to declare, "When I am weak, then am I strong," so any Christian may know that his own absolute dependence upon the Master is his only hope for success in the Christian life. Many a man has been saved from drowning by entire dependence upon a more powerful swimmer. Struggling would have meant death. A traveler who has chosen a guide for mountain-climbing cannot stop midway on a perilous cliff to consult his own fears; he must trust the guide and go ahead, or both may be lost. When a master is chosen, he must be master indeed, and his word must be law. The knowledge of weakness is not therefore a hindrance to discipleship, but rather a prerequisite, if only it do not hold the disciple back when the Master leads.—The Sunday-School Times.

Little Prayers

Help us to live so that our lives will be worth while. May the dominion of the Spirit harness the senses, see our beginnings, and carry us on to perfection.

Help us to reach out past the things we cannot understand, to the God we trust. We thank Thee for the passing of what changes, and the changelessness of that which passes out.

May we meet ordinary duty with extraordinary beauty—ordinary trial with extraordinary fortitude—may ordinary tests be in our hands as clay which we break with superhuman power. We thank Thee for Thy great gift: may we go on some unusual errand for Thee. May what we receive to-day influence what we do to-morrow, and make some one yearn for Thy gift. Teach us the infinite insignificance of the setting of life.—Maltbie Davenport Babcock.

Count Your Blessings!

Have you ever thought of doing it? The very next time you feel gloomy and morose, when you feel as though life were not worth living, try it. Persist until you have counted at least ten blessings, and you will be surprised to see how quickly you will name them. That cloud of discouragement will not seem quite so threatening, and the next time it overshadows you the ten blessings will assume the rôle of "rift," while before you are aware of it you will have added one or two more blessings to the list. The next day the cloud will not be so overpowering and dark, the list will be gaining. And before many days have passed you will sit down and wonder why you had never given thanks for the many blessings that are yours. Eventually the blessings will win out.

One woman seemed to have more than her share of disasters and trouble—at least that is how she felt about it. In hauling their wood down the rough mountain road the horses fell and were badly cut and bruised. The next morning, while chopping wood, her husband was struck in the corner of his eye with a long sharp splinter, resulting in an ugly wound. Next they lost three pigs, and shortly afterward a cow choked to death and several other things happened which annoyed and vexed her. Taking it all in all, the situation was very discouraging. It is generally at such times that people feel justified in complaining about their misfortunes. Such was the case with this particular woman.

But a few mornings later, while preparing breakfast, it suddenly dawned upon her to count her blessings—with all her trouble, surely she could count a few! She began right away, and this is the number she counted:

1—So glad those horses didn't break any bones; they'll soon be well.

2—How fortunate the splinter did not hit the eye itself.

3—The two pigs we have left are better than no pigs.

4—Am thankful that we are all well.

5—If a cow had to choke, am glad it was that old brindle.

6—Yesterday's rain will make the roads better.

So her thoughts ran on and on—she had so many blessings that it would be impossible to enumerate them all here.

Let us all follow this one woman's example, and the next time we become disheartened and discouraged, let us stop and count our blessings, and without a doubt we will always find them greater than our misfortunes and troubles. Try it.—H. M. Forbush.

Religious News Items

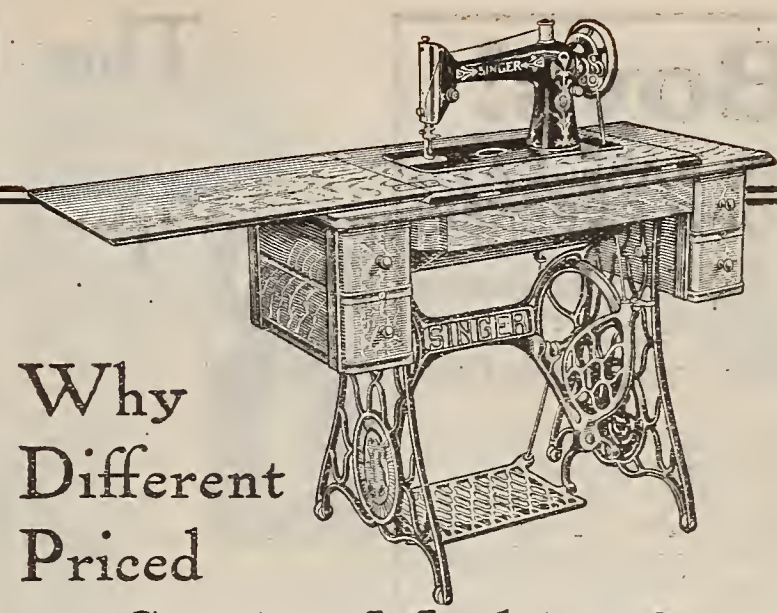
The American University at Washington, D. C., under the auspices of the Methodist Episcopal Church, has received a gift of eleven thousand dollars from a "Friend" in Ohio, who wishes his name withheld for the present.

Miss Garibaldi, granddaughter of the Liberator of Italy, and a former student of The Woman's College, Baltimore (Methodist Episcopal), has charge of the Girl's Home School in Via Garibaldi, Rome, under the auspices of the Woman's Foreign Missionary Society of that church.

The Methodist Church in Sweden has, within the last two years, sent out four missionaries—two to east central Africa, one to Malaysia and one to West China—while a fifth is under appointment to Inhambane, east central Africa. Beside supporting these, ten pastor teachers or helpers in India receive their support from this church.

The Salvation Army was organized in London in July, 1865. General William Booth has been the only commander-in-chief. The general headquarters are in London, the American headquarters in New York, and the Western headquarters in Chicago. There are 8,358 posts in fifty-four countries of the world. Twenty-six of these posts are in Chicago.

The first Christian Endeavor Convention in Chile was recently held in Taiguen, a small town in the southern part of that country. The meeting lasted three days, and at the close of the convention the delegates agreed to form a prayer band, and at the hours of 12:30 and 7:30 each day, wherever they might be, they would lift up their hearts in prayer to God for blessing on the church.



Why Different Priced Sewing Machines?

What makes the difference in the prices of various sewing machines? Why is one make sold for $18 and another for $40 or more? They all look about the same—to the unpracticed eye. The demonstrator may do fairly good work on the cheapest one, but you cannot do the work of years on it.

Perhaps he tells you the club plan of selling makes it possible to reduce the price because more are sold.

Perhaps he tells you that in the higher priced machine you pay for its name.

Now think it out for yourself. If the price could be lowered on account of the number sold, the Singer Sewing Machine would be the lowest priced in the world, because there are more Singers sold than all other makes put together.

You are not paying for a name when buying a Singer; you are paying for the merit that that name implies. How did the Singer get the name in the first place? Why didn't some other machine get the name?

Let us put a Singer in Your Home To try at Our Expense

This is a bona fide offer. We'll pay all expense incurred in getting it there. Try it out thoroughly on your regular work—sewing—or mending. If it is not all you hope to find it send it back at our expense. This costs you nothing, only a postal for our booklet, "A Wireless Message from the Singer Tower," which we send you to select a machine from, according to the style you'd like and the price you'd like to pay if you buy. Remember, you are under no obligation to buy.

Address
SINGER SEWING MACHINE COMPANY
Room No. 1130 Singer Building, New York

SINGER SEWING MACHINES

New York Fashions

If you want to have your clothes have a New York air about them, use

Madison Square Patterns

They are the most distinctive patterns made. The designs are exclusive, up to the moment, and yet they make wearable clothes.

The patterns are not sold in stores. They are exclusive. You can obtain them only by ordering direct from the Pattern Department of Farm and Fireside.

The New Summer Catalogue of Madison Square Patterns will be ready for distribution June 20th. It is filled with beautiful illustrations of all that is newest and best in the summer fashions.

If you want the Catalogue, send your order at once to the Pattern Department and inclose in your letter two 2-cent stamps (four cents).

Pattern Department, Farm and Fireside
11 East 24th Street, New York City

Here Is Something New From Kalamazoo

Prove for yourself in your own home, that the Kalamazoo is the most perfect—most economical—most satisfactory range for you to use—Your money back if it's not.

Send for Catalog No. 183 with special terms and compare Kalamazoo prices with others

Cash Or Time Payments

We want every housewife to know the comfort and convenience of a Kalamazoo in her home. You can buy on **easy time payments** or pay cash if you like. Either way—you save $10 to $20 on any stove in the catalog. We make it easy for responsible people to own the best stove or range in the world.

We Pay the Freight

Kalamazoo Stove Co.
Kalamazoo, Mich.

"A Kalamazoo Direct to You"

Boys!

PLAY BASE-BALL AT OUR EXPENSE!

Base-Ball Supplies Free to Our Farm and Fireside Boys!

EVERY red-blooded American boy should play base-ball. It's the national game and the sport of the nation. Every city and town in the country has a base-ball club. Every college in the land supports a ball team, and millions of dollars are spent every year on the great American game.

A clean, healthy, manly game is base-ball. That's why we want the FARM AND FIRESIDE boys to play the game and to play it right. To do this our boys must have the proper equipment.

Look at the Supplies We Are Giving Away!

Men's Professional Base-Ball, the kind that the professional players use. A lively, durable, well-made base-ball that will stand hard wallops and rough handling.

The Catcher's Mitt and Fielder's Glove are of the best quality and workmanship, and are well padded. They are made of good, strong leather, and are durable in every respect.

The Mask is made of strong, heavy wire, and is up-to-date in design.

Any one of these desirable base-ball articles we will send you, post-paid, for only four yearly subscriptions to Farm and Fireside at 35 cents each. Two-year subscriptions at 50 cents will only count as one toward a premium.

Our Suit Offer

Send us nine yearly subscriptions to FARM AND FIRESIDE and in return we will send you one of our SPECIAL BASE-BALL OUTFITS consisting of a five-piece suit—one gray flannel base-ball shirt, one pair of gray flannel base-ball pants, one gray flannel cap, one pair heavy colored stockings and one colored web belt to match, together with **either** the Catcher's Mitt or Fielder's Glove above described.

Get nine boy friends to send us nine subscriptions each and in return we will send each boy one of these outfits, and in **addition** we will furnish the team—**Without Cost**—one Catcher's Mask, one Base-ball Bat, one Professional Base-ball and one Chest-Protector. Remember, these last four articles are sent in addition to the regular outfits, **ABSOLUTELY WITHOUT COST.**

Now, boys, is the time to get started, while the season is young and the base-ball spirit is strong. Send us your subscriptions at once for the outfits and get in line for the Four Special Club Gifts!

Send your subscriptions to

FARM AND FIRESIDE
SPRINGFIELD, OHIO

The Intervention of Little Red

By Leonore Beck Ellis

"I'M so glad to find you here, sweetheart!" Bartley had vaulted the low fence separating lane and orchard, before Betty could slip to the ground from her perch on the swinging limb of an apple-tree.

"You might have let me know you were coming!" she pouted, leaning sidewise to see if propriety could find fault with the disposition of lawn ruffles and graceful ankles.

"I wanted to surprise you," he laughed, with eyes full of admiration for the lovely picture framed in by apple-boughs in rich bloom.

"But you know that I detest surprises," she rejoined, still far from her usual smiles.

"Not always," he returned. "I remember a surprise last Christmas that you did not wholly detest. Another you told me about the other day, when you were so surprised to find Little Red's nest of eggs in the old buggy, and you were just as pleased as could be."

"Pshaw!" Betty's ripple of laughter came in spite of herself. Then, still unable to make sure in the direction of her slippers, she frowned again. "But you might at least have whistled in time for me to get down."

"But, Betty, I'm glad I didn't, for you look so pretty up there, sweetheart."

Indeed she did look pretty, with her shining hair, pink cheeks and blue lawn dress against that exquisite background of verdure and blossom.

"You're always being glad about something, Bart," Betty retorted saucily, yet half appeased.

"I'm two times glad to-day, dearest. I've come to tell you the very best news!"

But as he drew closer, to enjoy most completely the imparting of his happy tidings, and leaned against her bough, with an ardent upward glance into the sweet face, now a more vivid pink as its owner began to divine some deeper meaning in what the young man was saying, a voice startled both the lover and the maid. It was the voice of a woman singing as she came up the orchard path, and the rich contralto rang out superbly on the perfumed June breezes:

> "Oh, love for an hour, a year, a day—
> But alas for the love that loves alway!"

"Now see what you've done, Bart Allerton!" Betty's eyes flashed as she spoke in low, resentful tones. "She's the very last person I'd have find me in this absurd situation. Go away, quick!"

Bartley turned to vault the orchard fence again. Yet, glancing back at Betty, he lingered a fatal instant.

"Let me help you down, please, dear."

Pleading and handsome, he looked up at her, with his arms outstretched; but Betty's heart did not relent in the least, for Valerie Faxon had come in plain view of the scene, and now stood laughing with sarcastic lightness, her rich draperies held daintily away from the grass, her proud head thrown back, her big, disdainful eyes resting full on the pair.

"The most captivating of sylvan tableaux!" she exclaimed mockingly. "And to think—I forgot my camera!"

Betty's quick glance flashed from the beautiful city belle back to Allerton, and tears of vexation sprang to her eyes.

"You are the meanest thing on earth, Bart, to bring me into ridicule this way," she said, with her little white teeth set in anger. Yet he wavered, until she flung out, "And I hate you! Now will you go?"

"Oh, a lovers' quarrel, too, despite the pastoral setting," pursued Valerie, who in reality did not hear Betty's low words, but made a bold guess at the state of affairs, drawing her inference from the attitude and expression of the two. "I thought my pretty little cousin was always amiable," she added tauntingly.

But Allerton was gone; and Betty, dropping lightly from her perch before the young woman's words were finished, faced about, very cool and white, to confront the kinswoman whom she had little reason to love.

"Good-afternoon, Valerie. Mother is expecting you. But we thought Aunt Lavinia would bring you over in the carriage."

At that moment her father came out from the house, toward which the two were walking.

"Howdy do, Vally? Glad you've decided to come and bide a while with this branch of your country relations. My, but you do look like your ma to-day, child; only you missed her softness of eyes. Go right in and find mother and make yourself comfortable."

Waving his hand toward the wide veranda of the hospitable country home, he strode on in the direction of the pastures, but turned back to add, "If you girls find Bart Allerton about the place, I want you to make things pleasant for him. Where is he, anyhow, Betty? I told him he had to stay over Sunday and helped him put up his horse, then sent him out to the orchard to find you. Didn't you see him?"

"Yes," said Betty, something more than mere reserve in her tones.

Valerie looked amused, but the sparkle in Betty's blue eyes and the lift of the pretty chin did not encourage sarcasm or teasing. Mr. Hubbard glanced from one to the other, and asked, with something resembling a frown:

"What did you do with him?"

"Nothing whatever, father."

The tone of Betty's voice, no less than Valerie's covert laughter, irritated the farmer.

"See here," he commanded. "I won't put up with any slights, slams or impoliteness to the finest young fellow in this county."

Valerie, assuming a bewitching innocence of manner, answered demurely:

"I entirely agree with you, Uncle Hubbard, as to Mr. Allerton's magnificent qualities. He is quite a gentleman, I do declare. I think he is just down the lane now; and if you wish us to do so, we'll walk in that direction and invite him to a game of croquet."

The farmer nodded, and hurried off toward the pasture where his Angoras required attention. But he shook his head more than once as he strode across the green sod, and asked himself what it all meant. He halted, whistled, thought again, then walked on.

"Pshaw, it's bothersome. I'll give it up, and ask Marthy to-night. After nigh thirty years of married life, I don't know the A B C of women-folks."

Mr. Hubbard might not have given up the problem so easily if he could at that moment have seen Valerie sitting in the hammock under the big oaks, a croquet-mallet in her white hands, but her big eyes, now very soft and melting, fixed on Bartley Allerton's handsome face.

"Wouldn't you quite as soon sit here and talk as to drag about after those silly balls? I'm sure I would. Or you might run in the house and get us a book of verse, Mr. Allerton. However, to be perfectly frank, I'd rather talk to you and hear you talk than to read even my favorite poet. You are so different from all the other men of my acquaintance—there's so much more to you, you are so straightforward and manly, and everything you say rings so true and clear."

Flattered in spite of his inner convictions, Bartley seated himself beside her, looking with very genuine admiration into the superb black eyes, now all softness and feeling. With a quick pang he recalled a pair of blue ones that had flashed angrily an hour or so ago when their owner said, "Go away! I hate you!" The thought, to be sure, did not cause him to play the devoted one whit the less gallantly to the elegant belle at his side.

Those same blue eyes, now misted with tears, now stormy with wrath, gazed long from a vine-hidden window at the pair in the hammock. But their owner finally arose with a stern resolution banishing the dimples from her face.

"That is what he came for; she had told him she would spend Saturday and Sunday here. I felt it to be so at the first glimpse of him in the orchard. And then I was goose enough to listen to his soft talk and flattery. After his following her around at Mrs. Lynn's party, too! Well, it's the last time. He can go where he chooses from now on, but he sha'n't ever be my lover again. I'm done with you, Bart, even though I've loved you ever since we were tots, and I used to—boo-hoo—when I spelled you down in the little old school-house."

A tear splashed upon her hand. But, disdainfully wiping it away, she set about her tasks with head in the air, eyes very bright and cheeks a deeper rose than was their wont. At that moment Nervy, the little orphan, came running up to Betty.

"Goodness, Miss Betty, you said we'd set Little Red in the old wore-out buggy afore Sunday. Let's go do it now."

"You set her, Nervy," Betty returned, wearily, "and I'll give you the pick of the pullets she raises. You know where the eggs are."

The following day passed in much the same fashion, until late afternoon, when Miss Faxon arose with sweet weariness from the piano, and declared that she must immediately set out for Aunt Lavinia's, else the dear old lady would be growing anxious about her. No amount of persuasion could induce Valerie to remain a day longer, and after a lot of discussion as to who should take her home, Allerton offered to drive her in his buggy. In a short time the handsome couple were bowling gaily along the pleasant woodland road.

"Let me drive," cried Valerie.

"Your hands are too small and soft. The mare might bolt."

"Nonsense! You know nothing about my hands." And she reached wilfully for the lines.

One of Bartley's firm hands closed ardently over both her slender ones. She laughed softly, looking up at him with alluring eyes, leaving her hands in his a little, yet not overlong.

"You are so big and strong. It is grand to be such a man."

"But what is it to be the beautiful woman you are?"

"You only flatter me, Mr. Allerton. You know you don't think me half so pretty as Betty?"

"You are altogether different."

At this reply a jealous flash shot into Valerie's dark eyes. She paused momentarily, wondering if she might dare press him for a less non-committal answer. A curious little sound came to their ears in the pause.

"What was that?" she asked, startled.

"Some bird on its nest, perhaps."

"It sounded as if underneath the buggy."

"No, in the fence-row, I imagine. Birds are nesting now, you know."

She glanced about.

"Oh, we are half-way there. Mayn't I drive now?"

He leveled a glance at her, with a certain recklessness in his fine eyes.

"You challenge me?"

"I? No, indeed, Mr. Allerton! There, let go of my hands. You should not play the devoted to me in this fashion."

"Why must it be mere play?"

"You are bound to my cousin. Do you suppose I have forgotten what you were telling me at Mrs. Lynn's party?"

"But if I were free?"

That sound again. Such a strange, mocking little noise, half a croak or caw, half a long-drawn-out, interrogative "Eh?" thrice repeated. It seemed to come really from beneath them, one might almost say from between them.

"Oh, what in the world?" exclaimed the young lady, with genuine nervousness.

Bartley checked his mare, and looked around searchingly.

"Only another of those birds," he said after a little.

Then, dismissing the matter, she returned to the point of vantage.

"If you were free, Mr. Allerton"—her long, silky lashes dropped over the melting dark eyes—"why, I think nothing could make me so happy as your devotion."

Allerton gazed at the lovely face and modestly veiled eyes. His soul gripped hard at a fleeting faith in the coquette.

"She must be in earnest with me," he reasoned. "Why shouldn't I find happiness where there is so much beauty and charm? Has not Betty thrown me over, and for nothing?"

Suddenly, casting all else to the winds, he slipped an arm about the graceful figure, drawing her to him.

"I am free, Valerie. She hates me, and I—"

"Eh, eh?" came that weird, sardonic questioning beneath and between them. And again "Eh, eh?" with a taunting reminder in the notes that somehow brought Bartley Allerton sharply back to his senses as well as his loyalty.

He stopped the mare and sprang from the buggy, bent on thorough investigation of this disquieting phenomenon. Another moment, and he threw back his head, laughing heartily and long.

"What is it? Tell me," demanded Valerie irritably.

"Let me help you out; I want you to see."

Descending with rather bad grace, she stooped to look under the buggy-seat, where he was pointing. There, comfortably

[CONCLUDED ON PAGE 19]

Midsummer Fashions

No. 1168—Waist With Adjustable Chemisette
Sizes 32, 34, 36 and 38 inch bust measures

No. 1169—Gathered Skirt With Tucked Flounce
Sizes 22, 24, 26 and 28 inch waist measures

No. 1357—Collarless Surplice Waist
Sizes 34, 36, 38 and 40 inch bust measures

No. 1358—Skirt With Plaits, Back and Front
Sizes 24, 26, 28 and 30 inch waist measures. Length of skirt, 42 inches in front

Madison Square Patterns

HAVE you seen the Summer Style Book of Madison Square Patterns? If you have not, take a look at it. It's just out, and it tells you many new things of interest about fashions in general and summer fashions in particular. In writing for it, inclose four cents in stamps and send your order to the Pattern Department. The patterns here illustrated are ten cents each. Address the Pattern Department, FARM AND FIRESIDE, 11 East 24th Street, New York City.

How to Get Patterns Without Cost

We will send you two of FARM AND FIRESIDE's Madison Square Patterns, without cost, if you will send us two subscriptions to FARM AND FIRESIDE. One of the subscriptions may be your own. Either subscription may be for one year at thirty-five cents or for two years at fifty cents. You may choose any two patterns shown on this page or in any other issue of FARM AND FIRESIDE. Send your order to the Pattern Department, FARM AND FIRESIDE, 11 East 24th Street, New York City.

No. 1335—Jumper Waist Buttoned on Shoulders
Sizes 32, 34, 36, 38 and 40 inch bust measures

No. 1336—Six-Gored Skirt With Front Opening
Sizes 22, 24, 26, 28 and 30 inch waist measures

No. 1359—Tucked Shirt-Waist Buttoned at Side
Sizes 32, 34, 36, 38 and 40 inch bust measures

No. 1360—Buttoned-in-Front Skirt With Plaited Inset
Sizes 22, 24, 26, 28 and 30 inch waist measures. Length of skirt, 42 inches all around

No. 1338—Tucked Tailored Shirt-Waist
Pattern cut for 34, 36, 38 and 40 inch bust measures. Quantity of material required for medium size, or 36 inch bust, four yards of twenty-seven-inch material, or two and one half yards of thirty-six-inch material

CROCHET buttons are very much the fashion this summer, and they give a pretty new touch to the shirt-waists and tub-dresses. The white ones are the most in favor. Two small crochet buttons connected by a firm chain-stitch make very attractive cuff-links. And here is another suggestion: In making a plain linen dress, if you have a little extra time to spend on it, why not embroider some linen-covered buttons in spider-web effect. They will add much to the originality of your gown.

THE sailor hat is just as fashionable this year as ever. It's a little larger, however, and the brim very frequently shows the mushroom droop. A black velvet band with a flat bow at the side makes a smart trimming for a white or Tuscan straw sailor, or a linen band embroidered in pretty colored silks—two or three shades of blue or green used on a tan linen band is most effective.

IF YOU look well in a waist that shows your neck, do try one of the collarless models this summer, because they are so very fashionable. A charming design to use for either a separate waist or for the waist of a costume is shown in illustration No. 1357. This waist has a particularly pretty line at the neck and the model fastens in surplice effect. Made of cotton voile in some of the new pretty shades of soft rose or delicate lavender, and trimmed with an embroidered cotton banding or lace insertion, in imitation Irish or Cluny, it would look extremely pretty.

Many of the collarless waists are made to be worn with a Dutch collar, and these collars come in an endless variety with jabots to match. When both the collar and the jabot can have a hand-embroidered touch they are the prettiest.

Nos. 1357 and 1358 Nos. 1359 and 1360

IT WILL certainly be good news to the average woman that there is a strong tendency just now toward getting away from the extremes in dress. Sheath effects, Directoire and Empire lines are seen less and less in the newest fashions, though many of the imported midsummer gowns show an exaggeratedly long waistline; yet the normal waist is the most often seen. Skirts are growing wider, and many plaits are appearing, while the sleeves are not nearly so uncomfortably tight as they were six months ago. In skirts many different styles are favored, although the general outline keeps about the same.

Among the smartest of the shirt-waist suits are those which not only have the waist buttoned in front, but the skirt, also, and they show plaits introduced in the waist and skirt.

Copyright, 1909, by The Crowell Publishing Company

PRESSED HARD

Coffee's Weight on Old Age

When prominent men realize the injurious effects of coffee and the change in health that Postum can bring, they are glad to lend their testimony for the benefit of others.

A superintendent of public schools in one of the southern states says:

"My mother, since her early childhood, was an inveterate coffee drinker, had been troubled with her heart for a number of years and complained of that 'weak all over' feeling and sick stomach.

"Some time ago I was making an official visit to a distant part of the country and took dinner with one of the merchants of the place. I noticed a somewhat peculiar flavour of the coffee, and asked him concerning it. He replied that it was Postum.

"I was so pleased with it, that after the meal was over, I bought a package to carry home with me, and had wife prepare some for the next meal. The whole family were so well pleased with it, that we discontinued coffee and used Postum entirely.

"I had really been at times very anxious concerning my mother's condition, but we noticed that after using Postum for a short time, she felt so much better than she did prior to its use, and had little trouble with her heart and no sick stomach; that the headaches were not so frequent, and her general condition much improved. This continued until she was as well and hearty as the rest of us.

"I know Postum has benefited myself and the other members of the family, but not in so marked a degree as in the case of my mother, as she was a victim of long standing." Read "The Road to Wellville," in pkgs. "There's a Reason."

Ever read the above letter? A new one appears from time to time. They are genuine, true, and full of human interest.

THE Embroidery Book For 1909

By Evelyn Parsons

A HANDSOMELY illustrated forty-page book containing all the newest ideas in needlework, with full directions for working, is now ready for distribution. The designs include gowns, tub-dresses, shirt-waists, hats, neckwear, lingerie, baby-clothes, all kinds of household linen, curtains, sofa-cushions, etc., etc. Order at once, as the edition is small and will soon be exhausted. Ready for mailing June 1st.

Sent Post-paid on Receipt of Ten Cents

Address

Embroidery Book
Woman's Home Companion
Madison Square
New York City

YOUR RAZOR ALWAYS SHARP Buy no more razors. Pay no more hone bills. Shave in comfort. Send us your name at once.
SEDELKE & COMPANY, Dept. 16, ELYRIA, OHIO

Handkerchiefs Without Cost to You Write for catalogue No. 37 of the "Well Dressed Woman," to Good Form Garment Co., Cleveland, Ohio, manufacturers of corset waists and petticoats.

Allen's Foot-Ease

Shake Into Your Shoes

Allen's Foot-Ease, a powder for the feet. It relieves painful, swollen, smarting, nervous feet, and instantly takes the sting out of corns and bunions. It's the greatest comfort discovery of the age. Allen's Foot-Ease makes tight-fitting or new shoes feel easy. It is a certain help for ingrowing nails, perspiring, callous and hot, tired, aching feet. We have over 30,000 testimonials. TRY IT TODAY. Sold by all Druggists and Shoe Stores. 25 cents. Do not accept any substitute. Sent by mail for 25 cents in stamps.

"In a pinch, use Allen's Foot-Ease."

FREE Trial Package Sent by mail
ALLEN S. OLMSTED, Le Roy, N. Y.

Our Young Folks' Department

A Thrilling Fourth of July

By Eva May Farlow

"SAY, fellows, don't forget about the parade to-morrow," shouted Tom to a crowd of boys on the opposite side of the street. "The boys meet at my house at ten o'clock, so be sure to be on time. Jack Bradley's going to lead, so you can bet we'll have a bully good time."

"To-morrow" was the Fourth of July, and Tom was planning to do things up brown on that day. He said the Fourth was the greatest event in history, and he meant to celebrate it as a true patriot should. Tom's grandfather had fought in the Civil War, and the thrilling experiences and adventures he had told Tom stirred his young blood and made him long to do noble things for his country.

The morrow couldn't came too soon for Tom. With the first gray streaks of dawn he jumped out of bed and dressed, and went out into the yard to shoot off fire-crackers. At ten o'clock he was all ready, waiting for the boys, with small flags and red, white and blue badges that his mother had furnished for the occasion.

Tom heard the boys long before they came in sight. The tune of "Dixie Land" and the beating of the drums put fire into him, and he danced a jig then and there in the street. When they marched up, four abreast, and halted in front of his door, Tom threw his hat in the air and gave "three cheers!" Then the boys gave their school cry.

By this time the whole neighborhood was astir. Tom distributed the flags and badges and kept the large banner for himself. They shouldered their guns, and at Jack's command fell into line. Since it was the Fourth of July, their parents had allowed them to carry their rifles, and you may be sure they felt like real soldiers in pursuit of the enemy as they saluted their captain and prepared to march. Jack, by virtue of his position as captain, carried his father's sword. They were twelve rows deep, four abreast, and with their flags floating and their drums beating, they filed off to the tune of "Yankee Doodle."

As they marched through the main street of the village, the people came hurrying to their doors to see what all the noise meant, and when they saw the boys with their guns, and the dear old Stars and Stripes floating over all, they caught the spirit of the day and cheered and shouted until the boys disappeared from sight.

After parading through town, they started for the mountains, where they planned to spend the day. The mountains were about four miles from the village, and it was said that wild animals roamed through their woods. However, Tom and the boys had been there several times, but had seen nothing but a startled deer and a frightened squirrel. Anyway, didn't they have their guns if the worst came to the worst? They were soldiers to-day, and feared nothing. Let the enemy approach; they were prepared.

When they reached the foot of the mountain, the captain disbanded them with the command, "Until the bugle-call, every one of you is off duty. Let's take ourselves to the top of this mountain and have our lunch."

The boys agreed with alacrity, and throwing aside their official manners, scampered up the mountain side.

"I say, boys," shouted Jack, "let's keep together, for we don't want to go home with one of our number missing."

By this time the boys were nearly famished, and it didn't take them long to spread out their lunch.

"Come on, sit by me, Tom," said Jack. "You're my right-hand man."

"Jack drew his sword and darted toward the animal"

"All right," returned Tom. "I don't care where I sit, so long as I'm near something good to eat."

"Just look at fat Tommy Perkins," exclaimed Billy Watkins. "Gee, Tommy, ain't you going to let me have a taste of any of that home-made cake of yours?"

The young man in question was easy to find among the group of boys. He was the "fattest" of them all, and didn't mind in the least when they called him "Skinny." Every one turned their eyes on Tommy and began to tease him for eating so much, and Jack, who is always ready with a funny remark, jumped up in the midst of the laughing boys and addressed them:

"Little Tommy Perkins,
For that is his name,
Eats so much luncheon,
He ought to be ashame'.

"He looks like a Chinkee
Sitting on a mat,
Eating chop-suey,
No wonder he is fat."

"Bravo! Bravo!" shouted the boys. "More! More!"

But this time it was Tom who arose. Holding his tin cup in his hand, he began:

"Although I'm not the captain,
Of this, our mighty band,
I wish to say a few words
About our dear old land.

"We've assembled here together
To celebrate and play,
For this, my friends and soldiers,
Is Independence Day.

"So let us lift our voices,
Before we play at tag.
Come on, quick, everybody,
Three cheers for our dear flag!"

"Three cheers for Old Glory," chorused the boys, "and three cheers for Tom Brown!"

"Now it's up to Tommy Perkins, ain't it, fellows," piped Ed Johnson, as he reached for another sandwich.

"Yes. Come on, Tommy, give us that story of yours about the adventure with the bear while—"

Jack's sentence was cut short by a cry of alarm from one of the boys.

"Listen!" cried Tom, jumping to his feet, and pointing to the edge of the woods. "Sounds like something moving over there!"

The boys stood speechless, and instinctively reached for their rifles—and none too soon, for at the next moment they were face to face with a big grizzly bear.

Jack drew his sword and darted toward the animal, and Tom shouted, "Shoot, boys! Aim for his eyes!" Tom took aim and fired, and the boys followed suit. Jack was grappling with the bear, and in the next instant was felled to the ground. The boys, forgetting about their danger, pitched headlong into the bear, and beat him with their rifles. In a moment Jack jumped to his feet, fighting the bear for all he was worth. Again the boys fired their rifles, and the bear, blinded by the shot, began to stagger aimlessly. Quick to notice his condition, Jack rushed forward, and putting all his strength to the test, ran the sword into the bear's heart, while the boys attacked him from behind . . . the bear fell dead where it stood.

Jack sank to the ground exhausted, and the boys gathered around him.

"You'll be all right in a few moments," said Tom. "You're a brave captain all right, and we're proud of you!" The other boys were too frightened to speak.

"Geewhillikens, fellows, that was a fierce battle, but we got the enemy all right, didn't we?" spoke up Jack. "The old brute, he'll never roam these woods again."

Such excitement as there was in the little village when the boys returned, carrying the big brown bear on a stretcher which they had made from the limbs of fallen trees. How their manly hearts swelled with pride as the people cheered and shouted and praised them for their bravery! Little girls waved flags and hurrahed, little boys shot off pistols and fire-crackers, fathers did the same, while the calmer mothers stood at their doorways speechless, watching the merry throng and smiling to themselves at the dignified manner in which the boys carried themselves. And the boys? Well, if they had been real soldiers returning home victorious from the war they could not have felt more important nor happy.

They all stayed at Tom's house for supper, and when they were nearly finished, Mrs. Brown came in carrying a large package. She handed it to Jack with the words "I take great pleasure, brave captain, in presenting you with this small gift as a token of my appreciation of your brave and heroic deed."

With a hearty "thank you" and a few kind words, Jack took the package and opened it. A cry of joy escaped his lips when he found that it contained all kinds of fireworks—red lights, yellow lights, sky-rockets, pinwheels, fire-crackers, flower-pots, everything that a boy could wish for. Of course Jack shared them with the rest of the boys, and that night Tom's street was ablaze with lights and sizzing sky-rockets. Such a good time as they did have eating ice-cream and cake and munching on candy sticks.

When their club met next day, every member was present except Jack, and no one could understand why he was so late, for he was always the first one there. Just as they were talking about him, in he skipped, all breathless and excited.

"Salute your captain," cried Jack, "and be quick about it, too; for guess what, fellows, I sold the bear's skin and got thirty dollars for it." And he kicked up his heels and started to dance a jig, he was so happy.

"Ain't that bully," put in Tom. "Now we can buy those long-wished-for tents, can't we?" And so the boys purchased two good-sized tents, and had a little money left over to put in the treasury.

This summer they intend to have some mighty fine times camping.

The Letter-Box

DEAR COUSIN SALLY:—I have a question that I want to ask you. I am very much interested in our little "corner," but since I can't draw or write stories very well I never take part in our contests. I have a little friend who is very clever at writing and drawing, but who does not take FARM AND FIRESIDE, and I am wondering if she could take part in the contests. I always let her see our paper. Lovingly,

LEONA GALLOGLY,
Burley, Idaho.

MY DEAR LEONA:—It pleases me more than I can tell to know that you are interested in our little "corner." Only I wish you would take part in our contests. Don't say you can't draw or write—just sit down and try, try, try, and you'll be surprised to see how wonderfully you get along. It is quite unselfish of you to want your little friend to try for the prizes. Of course, dear, she is welcome. You know I said before that whether or not your name is on the subscription list of FARM AND FIRESIDE, this in no way keeps our boy and girl readers from taking part in our contests and good times. Tell your little friend I would be pleased to have her join our next contest. With love, COUSIN SALLY.

DEAR COUSIN SALLY:—As we are beginning our second year together, I thought I would write and tell you that I am going to work harder than ever to make our department such a big success that we will be allowed another whole page. I have just got back from gathering wild flowers and violets. I do love flowers. My garden looks very fresh and pretty.

Now, Cousin Sally, I hope all the other boys and girls will work hard for another page. I know I will. Well, good-by.

Lovingly and faithfully,
HAZEL SMITH, Age Twelve.
Berlin, Pennsylvania.

DEAR HAZEL:—What an enthusiastic little letter! You are just the kind of girl Cousin Sally needs to help the department along. I wish other boys and girls who read your letter would feel the same as you do. If everybody would make up their minds to work, and interest themselves in our little "corner," in a short time I am sure we could get another page. But the department will have to grow a great deal before that lucky event happens. Write to me often, dear, and be sure to enter every one of our contests. COUSIN SALLY.

Answers to Puzzles in May 10th Contest

A SQUARE

H A N D
A R E A
N E A R
D A R E

A DIAMOND

F
M A D
F A I R Y
D R Y
Y

Prize-Winners

Carroll Verne Hadley, age fifteen, Danville, Indiana, and Mary Borland, age fourteen, Bloomington, Indiana, carried off the cameras. It is impossible to run the Honor Roll. However, all the boys and girls whose work showed merit received a charming picture, as did also all the boys and girls who solved the two puzzles. The cousins who guessed the puzzles, but who forgot to state their ages, were not awarded a prize.

Humorous Bits

Belligerent Hospitality

THE darky's proneness to use big words and his inability to get them in the right place are well known. "Uncle Jube" was an old family servant in the home of Mr. Wayne. That gentleman was enlarging his house, and when a passer-by casually remarked upon that fact to the old negro, he replied:

"Yes, sah, Mars Wayne's a-creasin' out. He's a-buildin' a new condition to his house so dat he can entertain with mo' hostility."—Thomas C. Galbreath.

She Got the Dress

WE received a very excellent article from a contributor the other day with this comment: "My wife says, if the article suits you, to please send on the check on the May 1st pay-day, as she wants to get a graduation-dress for my daughter Margaret with that check. I have found that it is of no use whatever to explain to my wife that one piece of money is the same as another piece of money of the same purchasing power. No, she must have one piece for this and one for that and one for tother, and if they don't come along in just that order, she doesn't like it. So—"

Selah!

THE woman that maketh a good pudding in silence is better than she who maketh a tart reply.—United Presbyterian.

Stopped in Good Time

LITTLE Johnnie, who had been praying for some months for God to send him a baby brother, finally became discouraged. "I don't believe God has any more little boys to send," he told his mother, "and I am going to quit it."

Early one morning not long after this he was taken into his mother's room to see twin boys who had arrived in the night. Johnnie regarded them thoughtfully for some minutes.

"Gee," he remarked finally, "it's a good thing I stopped praying when I did."—Everybody's.

The Intervention of Little Red

[CONTINUED FROM PAGE 16]

ensconced in a neat nest of straw, sat a pert and ruddy little hen, an air of great importance in her attitude and expression.

"How absurd! What does it mean?" asked Valerie, frowning.

"Why, it is Betty's Little Red. Don't you know her?"

"Oh! And I suppose my cousin has sent this ridiculous creature along as a chaperone, being afraid to trust you and me alone on the drive?" She put it very sarcastically, but Bartley did not see fit to reply.

"I think I have guessed it out now," he said at last. "She has a nest full of eggs there, and is undoubtedly sitting. She is Betty's special pet, you see, and so they never broke her up from laying in the old buggy in the carriage-shed. I remember now meeting Nervy meandering out there last night with a basket of eggs on her arm, jabbering to herself some nonsense about Little Red. Beyond a doubt, that rattle-brained child set the hen in my buggy, never noticing that Mr. Hubbard had run the old vehicle out to make room for mine. Now isn't that a pretty come-off?"

Valerie's nose was in the air.

"It is preposterous beyond all words. Come, let us drive on to Aunt Lavinia's, and you can find somebody there to take the hen back."

The false situation was now entirely ended for Bartley. He realized fully whither he had been drifting, and mentally thanked his good chaperone, Little Red, for rescuing him from any more serious complications. At that moment an old-fashioned vehicle appeared.

"Oh, Aunt Lavinia."

"What's the matter? A broken trace? Well, I hope it's mended. How d'ye do, Mr. Allerton? I'll take Valerie the rest of the way. I didn't expect her till tomorrow, so when that telegram came just now from the man she's engaged to, that he'd be here to-night, I thought I'd better start out after her. Well, you probably want to hurry back to Betty, so good-night!"

As in the last night's gloaming, again he found his sweetheart in the fragrant clematis bower. She did not hear or see him this time, for her face was hidden, and she was sobbing bitterly.

"How could he, oh, how could he be so utterly false?"

"Betty!" he said softly, and took her in his arms. "I was foolish, little sweetheart, to believe you when you said you hated me. And I let my folly drive me close to the verge of being false, in one sense, but Little Red saved me. Won't you let me tell you about it, darling? And will you listen, too, to the good news I came yesterday to bring?"

"Can you ever forgive me, Bartley?" asked a very contrite Betty.

"Yes, wholly," replied her lover, "provided you will consent for me to begin at once to build our little home with the money precious old uncle has given me."

That Betty consented could hardly be doubted by any one who heard the sounds ensuing.

"And, sweetheart, I shall build the cutest, tiny pagoda for Little Red and her offspring."

"Not Little Red any longer," put in Betty archly. "Henceforth she is the Chaperone!"

"George, you horrid thing, stop!"

Opposed to Slang

DONALD had been to Sunday-school, and on coming home was asked what he had learned. The lesson was the story of Joseph, and the small learner was evidently very full of his subject.

"Oh," he said, "it was about a boy, and his brothers took him and put him in a hole in the ground; and then they killed another boy, and took the first boy's coat and dipped it in the blood of this boy and—"

"Oh, no, Donald, not another boy!" his sister interrupted, horrified. But Donald stood his ground.

"It was, too," he insisted. Then he added, "The teacher said 'kid,' but I don't use words like that."—Nanna Crozier.

The Old-Fashioned Bonnet

How dear to my heart is the old-fashioned bonnet,
The old-fashioned bonnet that Nell used to wear;
Without any plums and red cherries stuck on it—
The bonnet that didn't require phony hair.
The dish-pan effect may be stylish and stunning,
The waste-paper basket that's lately come in
May be quite the rage and recherché and cunning,
But give me the hat she tied under her chin. —Detroit Free Press.

No Hurry

THE minister of a certain parish in Scotland was walking one misty night through a street in the village, when he fell into a deep hole. There was no ladder by which he could make his escape, and he began to shout for help. A laborer who happened to be passing, heard his cries, and looking down, asked who he was. The minister told him, whereupon the laborer remarked, "Weel, weel, ye needna kick up sic a noise. You'll no be needed afore Sawbath, an' this is only Wednesday nicht."—The Argonaut.

"Oh, wad some power, etc."

"And, my dear, she had on a *Hat!* Well, if you'd seen it, you'd have gone into hysterics."

IN THE BACK OFFICE

IN HIS recent speech in North Carolina, President Taft said:

"The *measure* of any declaration is not so much the abuse or denunciation of the former controlling power as the provisions made for the future form of government."

This thought so closely coincides with the editorial spirit of FARM AND FIRESIDE that we might well adopt it as a motto to be carried aloft on our banner.

We shall continue to discuss with frank fearlessness such evils as we believe should be wiped out, but we shall discuss these evils *because* we believe—yes, know—they can be wiped out, not just for the sake of complaining or grumbling.

Furthermore, FARM AND FIRESIDE will not spend all or even a large part of its time in hunting for trouble, nor its space in proclaiming it. When we feel that any particular condition or situation demands straight-from-the-shoulder handling, straight-from-the-shoulder it will be; but if in the same breath, with this hammering, knock-down tactics, we can't *rear up* a more valiant substitute, we have no justification *absolutely* for the aforesaid toppling-over methods.

We believe so strongly in the present and future success, prosperity and happiness of the great FARM AND FIRESIDE family, that even in the frays we shall undoubtedly be engaged in there should be a key-note of cheerful confidence, and whatever else, *No Grumbling.*

BRAIN BUILDING

How to Feed Nervous Cases

Hysteria sometimes leads to insanity and should be treated through feeding the brain and nerves upon scientifically selected food that restores the lost delicate gray matter. Proof of the power of the brain food, Grape-Nuts, is remarkably strong.

"About eight years ago when working very hard as a court stenographer I collapsed physically, then nervously, and was taken to the State Hospital for the insane at Lincoln, Neb., a raving maniac.

"They had to keep me in a straight-jacket and I was kept in the worst ward for three months. I was finally dismissed in the following May, but did no brain work for years, until last fall when I was persuaded to take the testimony in two cases.

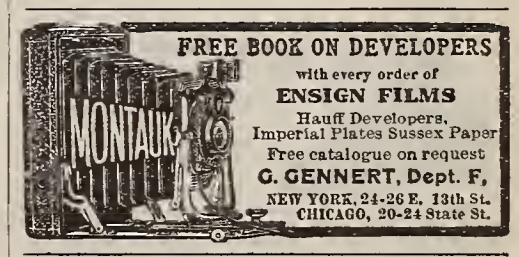
"One of these was a murder case and the strain upon my nervous system was so great that I would have broken down again except for the strength I had built up by the use of Grape-Nuts. When I began to feel the pressure of the work on my brain and nerves I simply increased the amount of Grape-Nuts and used the food more regularly.

"I now feel like my old self again and am healthy and happy. I am sure that if I had known of Grape-Nuts when I had my trouble 8 years ago I would never have collapsed, and this dark experience in my life would never have happened.

"The power of Grape-Nuts as a brain food is simply wonderful and I do not believe any stomach is so weak that it cannot digest this wonderful food."

"There's a Reason." Look for the little book, "The Road to Wellville," in pkgs.

Ever read the above letter? A new one appears from time to time. They are genuine, true, and full of human interest.



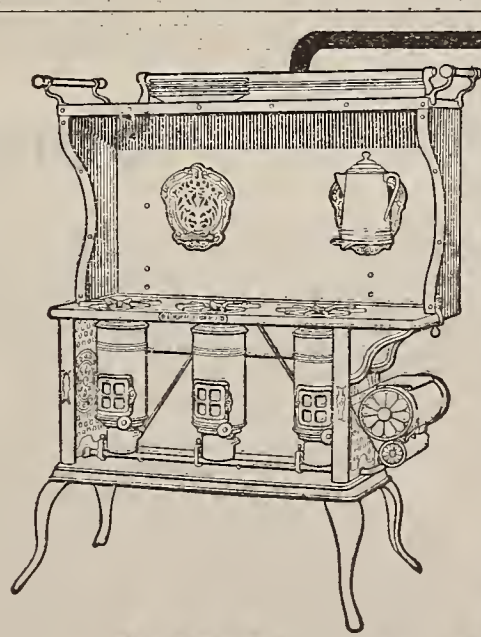
FREE BOOK ON DEVELOPERS
with every order of
ENSIGN FILMS
Hauff Developers,
Imperial Plates Sussex Paper
Free catalogue on request
G. GENNERT, Dept. F,
NEW YORK, 24-26 E. 13th St.
CHICAGO, 20-24 State St.

GENUINE BARGAINS IN HIGH-GRADE UPRIGHT Pianos. Slightly used instruments: 12 Steinways from $350 up; 6 Webers from $250 up; 9 Krakauers from $250 up; 7 Knabes from $250 up; 3 Chickerings from $250 up; also ordinary second-hand Uprights $75 up; also 10 very fine Parlor Grand pianos at about half. Write for full particulars. Cash or easy monthly payments. Lyon & Healy, 62 Adams St., Chicago. We ship everywhere on approval.

LEARN JEWELERS' ENGRAVING

A high salaried and easily learned trade, taught thoroughly by mail. We will teach the beginner better engraving than he can gain in years of rigid apprenticeship. We will also improve the skill of any engraver. Send for our catalog.

The Engraving School, Dept. 25, E. 40th St., Chicago



The Oil Stove With a CABINET TOP

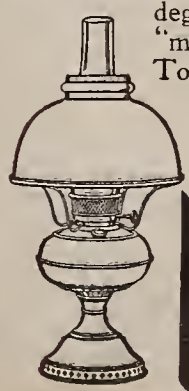
The New Perfection Wick Blue Flame Oil Cook-Stove differs from all other oil stoves.—*It has a CABINET TOP.* This means you can keep dishes and utensils within easy reach while cooking, *and can keep food hot after removing it from the blaze.*

From its wonderful burners to its racks for holding towels the

NEW PERFECTION

Wick Blue Flame Oil Cook-Stove

is without equal. Its principle of concentrated heat means that the work can be done quickly and without the kitchen being heated to an unbearable degree. Can be lighted instantly and turned "high," "low" or "medium" at will. Three sizes. With or without Cabinet Top. At your dealer's, or write our nearest agency.



The **Rayo Lamp** comes as near lamp perfection as it's possible to get. Gives a clear, bright light that reaches the farthest corner of a good-sized living-room. Well made throughout of nickeled brass; perfectly safe and very ornamental. If not with your dealer, write our nearest agency.

Standard Oil Company
(Incorporated)

"Good"

at Breakfast, Lunch or Supper

Delicious

Post Toasties

A new dainty of pearly white corn, by the makers of Postum and Grape-Nuts.

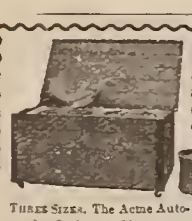
Toasties are fully cooked, rolled into thin wafers and toasted a crisp, golden-brown.

Ready to eat direct from the box with cream or good milk. The exquisite flavour and crisp tenderness delights the most fastidious epicure or invalid.

"The Taste Lingers"

Popular pkg. 10c.
Large Family size 15c.

Sold by Grocers.



Build Your Own Fireless Cooker and save money. Anyone can do it. No mechanical ability or experience required. I supply all material and teach you how to do the work. Make Fireless Cookers for sale. Good profits, big demand, easily sold. I give exclusive territory and assist you in selling the goods. Full particulars free. Write today.

THREE SIZES. The Acme Automatic Cooker boils, stews, roasts and bakes. Does better cooking and saves 80 per cent fuel and kitchen drudgery. It cooks the food, not the cook.

H. M. SHEER, Box 21, QUINCY, ILL.

Summer Hats
Without Cost

We want every FARM AND FIRESIDE reader to have one of our Novelty Folding Hats—Light, Airy, Cool and Tasty. Just the thing you need for the hot summer days.

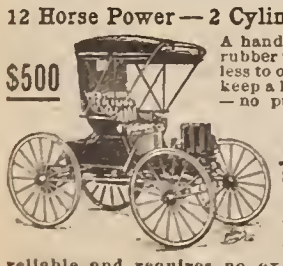
Send only six cents in stamps for a sample and our Great Free Offer.

JOHN L. THOMPSON, Secy.
The Million Club
Farm and Fireside Springfield, Ohio

The Economy Motor Buggy

12 Horse Power — 2 Cylinders — Air Cooled

$500



A handsome, practical, solid rubber tire motor buggy. Costs less to own and operate than to keep a horse—no tire troubles—no punctures or blow-outs.

Most Economical Motor Vehicle Made

Suitable for country or city—rough roads no obstacle. A great hill climber—goes anywhere 4 to 20 miles per hour. Absolutely reliable and requires no experience to operate. Every "Economy" is fully guaranteed. If you are interested in a Motor Buggy, we have the best proposition to make you that you have ever heard of. Write us at once for catalogue and full particulars.

ECONOMY MOTOR BUGGY CO.
Department Y Joliet, Illinois

SAVE MONEY
SAVE TIRE EXPENSE
Equip Your Bicycle With
G&J TIRES

The best bicycle tires made. The most satisfactory to ride. The easiest to repair. The most economical to use.

Sold by all bicycle dealers and supplied on new wheels when specified. Write for free catalog, also give name of your local dealer

Send us 4c. to pay for postage and wrapping and we will mail you a Handsome Gold Plated Souvenir Scarf Pin FREE

G & J TIRE CO., Indianapolis, Ind.

10 DAYS FREE TRIAL

We ship on approval, without a cent deposit, freight prepaid. DON'T PAY A CENT if you are not satisfied after using the bicycle 10 days.

DO NOT BUY a bicycle or a pair of tires from anyone at any price until you receive our latest art catalogs illustrating every kind of bicycle, and have learned our unheard of prices and marvelous new offers.

ONE CENT is all it will cost you to write a postal and everything will be sent you free postpaid by return mail. You will get much valuable information. Do not wait, write it now.

TIRES, Coaster-Brakes, Built-up-Wheels and all sundries at half usual prices.

MEAD CYCLE CO. Dept. P83, CHICAGO

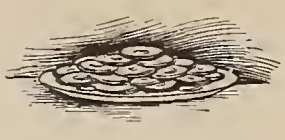
The Household

Two Delicious Strawberry Desserts

STRAWBERRY PUDDING—Mash one quart of berries with one cupful of powdered sugar. Let them stand while you make a syrup of one cupful each of sugar and water. When this has boiled for twenty minutes, mix with it one ounce of gelatin dissolved in one half pint of water. Take the syrup from the fire, and strain the strawberries through a fine sieve into it. Stand the bowl containing the mixture on ice, and whip briskly for five minutes, then add the whipped whites of four eggs, and keep beating until it begins to thicken. Mold in cups, turn out when firm, sprinkle with powdered sugar, and serve with whipped cream.

STRAWBERRY TARTS—To one pint of fresh, mashed berries add sugar and sweeten to taste, and whisk in the stiffly-beaten whites of two eggs. Line tart-shells with rich pastry, fill with the mixture, and bake. When done, drop a bit of meringue or whipped cream in the center of each.

Orange Cookies and Ginger Cake



ORANGE COOKIES—Two cupfuls of granulated sugar, one cupful of sour milk and one of butter or lard, one teaspoonful of soda, one fourth of a spoonful of salt, one egg and the juice and grated rind of one orange. Stir the ingredients well together and add enough flour to make a soft dough. Cut, and bake in a quick oven.

GINGER CAKE—One cupful of sugar, one cupful of molasses, one tablespoonful of butter and one of boiling water, two and one half cupfuls of flour, one teaspoonful each of ginger, cloves, cinnamon and soda and a pinch of salt. Put the melted butter into a bowl, and add the sugar, molasses and spices. The soda should be dissolved in a little boiling water, and then added, while the flour is put in last. Bake for thirty minutes in a shallow tin lined with a greased paper. This is just the kind of cake to take with you on a picnic.

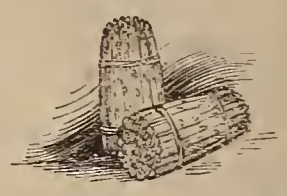
Baked Cherry Pudding and Pie

BAKED CHERRY PUDDING—One tablespoonful of sugar and one of butter; stir together. Add two eggs, two thirds of a cupful of milk and two teaspoonfuls of baking-powder, with enough flour to thicken the batter. Grease a dish (or cups), put in a layer of batter, then a layer of cherries, well sugared, and so on until the dish is filled. Always keep the batter on top This pudding is most inexpensive and makes a dainty dessert for a Sunday-night supper. It may be eaten with sugar and cream.

CHERRY PIE—Line a pie-tin with good crust, fill with pitted cherries, sweeten with about two thirds of a cupful of sugar, and sprinkle over it two spoonfuls of flour.

In making a fruit pie, always remember to wet the edge of the under crust before putting on the top one, as this will prevent the juice from running out.

Baked Asparagus is Most Appetizing



BAKED ASPARAGUS—Wash two small bundles of asparagus until perfectly free from sand, and stand them upright in a kettle of water, leaving the tender tips uncovered; in this way the steam will cook the tips while the boiling water is making the stalks tender, and the former will not be cooked to pieces, as is too frequently the case. When done, drain, and cut into small pieces, removing only the toughest portion of the ends. To each two cupfuls of asparagus add an equal amount of grated bread-crumbs, two tablespoonfuls of butter, one cupful of milk, one half teaspoonful of salt and three or four dashes of pepper. Dust a well-buttered mold lightly with the crumbs, then arrange the asparagus and crumbs in alternate layers, dusting each with salt and pepper, and dotting with little bits of butter. Have the last layer of crumbs, pour over the milk, and bake in a moderate oven twenty minutes. Serve hot. This dish is worth trying.

Two Tempting Salad Recipes

LETTUCE AND CUCUMBER SALAD—Remove thick slices from both ends of a cucumber, cut off a thick paring, and with a sharp-pointed knife cut five parallel grooves lengthwise of the cucumber at equal distances, then cut in thin slices crosswise. Wash lettuce, discarding the outer wilted leaves, drain, and dry on a towel, then keep in a very cold place until serving. Arrange in a salad-bowl in something of its original shape, and then put cucumber slices between lettuce-leaves. Serve with a French dressing, and if you will, add to it a little finely-chopped green pepper.

ASPARAGUS SALAD—Boil asparagus until tender, then drain it, and pour cold water upon it to blanch it. Take it from this at the end of fifteen minutes, and put on ice until chilled through. Lay three or four sticks of it on each plate, with one spoonful of mayonnaise or cream dressing if preferred.

Chicken Stewed With Asparagus

CHICKEN STEWED WITH ASPARAGUS—As soon as the hot weather sets in most people lose their appetite for meat. A tempting salad is very often the substitute, but to many of us who are not vegetarians this would not be substantial or nourishing enough. Nothing could be more wholesome or appetizing than chicken cooked in the following manner: Clean, and cut up a chicken, season with salt and pepper, and brown in butter. Dredge with flour and sprinkle with minced parsley. Boil two bunches of asparagus in salted water until tender without breaking. Put a lump of butter and one tablespoonful of cream into a sauce-pan and put half of the asparagus on it. Sprinkle with pepper, lay the pieces of chicken upon it, cover with the remainder of the asparagus, dot with butter, pour over one cupful of cream, and cook slowly until done. Serve with small squares of fried bread or with toast points.

Something Different

ALMOST every one has a liking (often a concealed one) for fried onions, and fried apples are also decidedly popular, but not every one has discovered what a delightfully appetizing dish the two make when fried together. With roast pork or goose the combination is quite ideal, and served on rounds or squares of crisp, hot toast for a luncheon or supper dish it seems to fill a long-felt want when one has a keen appetite. Sour apples should be used and twice as many should be prepared as you will have of onions. Pare the apples very thinly, slice them across, and remove all of the core. The onions must also be peeled and sliced thin. Then place the two together in a frying-pan in which a large lump of butter has been melted. Cover the pan, to keep in the steam, and let them cook until tender. When nearly done, sprinkle them lightly with sugar, and serve as soon as done.

A nice way in which to serve meat and toast for breakfast is the following: Chop two tablespoonfuls of pickles fine and mix them with one cupful of diced cooked meat of any kind; add a little gravy or melted butter, some seasoning if needed, and let get very hot, then spread over small slices of hot buttered toast, and serve.

Another nice toast combination is to cook two cupfuls of stewed or canned tomatoes with one half cupful of bread-crumbs, one tablespoonful of butter, and salt and pepper to taste. Pour this over hot buttered toast, and serve at once.

Spanish croutons make a delicious and quickly-prepared dish for luncheon or supper or at any time when something savory is wanted at short notice. Stamp out rounds of brown bread (at least one day old), and fry them in plenty of butter, to prevent them burning. The slices should be thin. When done, let them cool, and while they are cooling, whisk one cupful of cream until it is stiff, stir into it three dessertspoonfuls of grated cheese, and season to taste with salt and pepper and a pinch of dry mustard. Heap this over each crouton, and serve at once.

The lightest and most savory of fritters may be made with bread-crumbs and grated raw potatoes. Grate two thick slices of stale bread to fine crumbs, mix with it one tablespoonful of finely-minced onion, salt and pepper to season and one cupful of boiling milk. While the mixture is cooling, pare and grate six large potatoes, then beat them into the bread-crumb mixture; lastly add two well-beaten eggs. Drop by spoonfuls into a frying-pan in which there is plenty of boiling fat, and fry to a nice brown on both sides. Serve very hot with plenty of butter, and also sugar if liked.

Sardines are usually served just as they are taken from the cans, but they are altogether more pleasing when baked. For one small can of sardines allow two tablespoonfuls of butter, four tablespoonfuls of bread-crumbs and one small onion finely minced, two eggs, and salt and pepper to taste. Wipe all the oil from the sardines, divide them in halves, and lay them on a baking-dish. Melt half the butter, pour it over them, and add also two tablespoonfuls of hot water. Beat up the eggs, and gradually mix into them the bread-crumbs, onion, salt and pepper and the remainder of the butter. Spread this mixture over the sardines, and bake for fifteen minutes. This is an excellent dish for unexpected company when the larder is not well filled.

Try this way when white beans are to be served: Soak one cupful overnight: in the morning put them in a sauce-pan with plenty of cold water, and let boil until perfectly tender, adding salt to taste when they are about half done. Drain them. Melt one tablespoonful of butter in a stew-pan, put in two thinly-sliced onions, and let them fry to a light brown; then mix in one tablespoonful of flour, and salt and pepper to season nicely, stir this well, add two cupfuls of milk, and one half cupful of the water in which the beans were cooked, and let cook for twenty minutes, stirring frequently. Add the beans and one tablespoonful of butter, and let them cook together a few minutes longer. Serve at once. This is a favorite way of serving haricot beans in France and is much to be preferred to the usual dish of boiled beans.

MARY FOSTER SNIDER.

Household Notes

BE CAREFUL to keep the scouring material out of the joints of faucets when scouring them. It is apt to wear on the screws and washers.

HONEY should be kept in the dark, because it granulates quickly if allowed to stand in the light. It should be covered, because the sticky surface attracts and holds dust.

KEEP the half cupful of soup that is left over, and use it as a sauce for heated meat. A teaspoonful of cold vegetables may go to enrich a soup, flavor a stew or make out a salad. Bits of bread may be dried for croutons for soup, or crushed and put into jars to use for crumbing fried foods.